



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 Ross Avenue
Dallas, Texas 75202-2733

March 30, 2011

Via e-mail – scott.janoe@bakerbotts.com

CONFIDENTIAL SETTLEMENT DOCUMENT

J. Scott Janoe
Baker Botts L.L.P.
One Shell Plaza
910 Louisiana
Houston, TX 77002-4995

Dear Scott:

Thank you for your letter of January 18, 2011 regarding the regulation of Internal Outfall 521.¹ In your letter, The Dow Chemical Company (Dow) contends that the discharge from Internal Outfall 521 is exempt from RCRA because “state and federal regulators have chosen to regulate discharges from the Solvents Unit at the lateral into which Outfall 521 flows as point source discharges.”² Dow states that “[b]y applying water quality-based standards to Outfall 521, the agency signaled its decision to treat Outfall 521 as a final outfall for compliance purposes.”³ An e-mail from Joseph Minadeo (Dow Attorney) dated November 13, 2009 (Exhibit 2 at 2) also states that Internal Outfall 521 “is a point source discharge that is regulated and monitored under the Clean Water Act (CWA), and therefore exempt as an industrial waste discharge pursuant to Section 402 of the CWA. 40 C.F.R. § 261.4(a)(2).”

We have reviewed your letter, and for the reasons set forth below, have determined that the discharge from Internal Outfall 201⁴ is not subject to the industrial point source discharge exemption of Section 1004(27) of RCRA, 42 U.S.C. § 6903(27), and 40 C.F.R. § 261.4(a)(2). Therefore, Dow is disposing of hazardous waste (D002, K016, and K019) into two unpermitted surface impoundments (i.e., the Solvents East Ditch and the Dow Return Canal System).

¹ This outfall is currently known as Internal Outfall 201.

² January 18, 2001 Letter at 1 (Exhibit 1).

³ Exhibit 1 at 2.

⁴ Because this outfall is currently known as Outfall 201, I will use that designation where appropriate.

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A. OVERVIEW OF INDUSTRIAL POINT SOURCE DISCHARGE EXEMPTION

Section 1004(27) of RCRA, 42 U.S.C. § 6903(27), excludes “industrial discharges which are point sources subject to permits under section 1342 of Title 33” from the definition of solid waste. Likewise, the implementing regulation, 40 C.F.R. § 261.4(a)(2), provides the following:

For the purpose of [Part 261], industrial wastewater discharges that are point source discharges subject to regulation under section 402 of the Clean Water Act, as amended” are not solid wastes.

According to the comment under 40 C.F.R. § 261.4(a)(2), “[t]his exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.”

Pursuant to 40 C.F.R. § 261.2(f), a person who claim an exclusion from the definition of solid waste has the burden of proving that the exclusion applies. *In the Matter of Zaclon, Inc., et al*, 2007 WL 2285352 (EPA), slip op. at 5; *In the Matter of Ashland Chemical Company*, 1987 WL 109668 (EPA), slip op. at 12, fn. 25. Therefore, Dow has the burden of proving that the industrial point source discharge exemption applies.

According to a 1995 EPA Memo, the industrial point source discharge exclusion “is a modest and narrow one. Moreover, the comment reflects EPA’s intent . . . that the exclusion apply solely to the traditional pipe-outfall situation (i.e., ultimate release into waters of the United States).” Shapiro and Friedman, *Interpretation of Industrial Wastewater Discharge Exclusion from the Definition of Solid Waste* February 17, 1995 (OSWER Directive 9441.1995(05); RO 11895 at 2 (Exhibit 3). This Memo quoted the Federal Register preamble to the rule:

The obvious purpose of the industrial point source discharge exclusion in section 1004(27) was to avoid duplicative regulation of point source discharges under RCRA and the Clean Water Act. Without such a provision, the discharge of wastewater into navigable waters would be “disposal” of solid waste, and potentially subject to regulation under both the Clean Water Act and RCRA Subtitle C. These considerations do not apply to industrial wastewaters prior to discharge since most of the environmental hazards posed by wastewaters in treatment and holding facilities – primarily groundwater contamination – cannot be controlled by the Clean Water Act or other EPA statutes.

Id. at 2 – 3 [citing 45 Fed. Reg. 33084, 33098 (May 19, 1980)]; see *State v. PVS Chemicals, Inc.* 50 F.Supp.2d 171, 178 (W.D. N.Y. 1998).

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Thus, EPA based this exclusion on the need to avoid duplicative regulation under two statutes for discharges that occur . . . *directly to surface water*. EPA did not intend that the exclusion cover . . . discharges from treatment processes that occur prior to the [discharge directly to surface water]. Thus, *this exclusion only covers a subset of point sources regulated under the CWA*.

Id. at 3 (emphasis added). In addition, a 1986 EPA memo states that “since the Clean Water Act applies to discharges to the navigable surface waters, point source discharges cannot apply to some internal midway point in the wastewater treatment train on the grounds of a facility or another facility (unless it is a POTW) which treats, stores, or collects these wastewaters.” RO 11139 at 2 – 3 (Exhibit 4). Therefore, it is clear that the discharge must occur directly to navigable waters (waters of the United States), and not to some intermediate body of water in order for the exemption to apply.

B. THE PERMITTING DOCUMENTS CLEARLY SHOW THAT EPA DID NOT CONSIDER INTERNAL OUTFALL 201 AS A FINAL OUTFALL FOR COMPLIANCE PURPOSES

1. Permitting History of Internal Outfall 201

Internal Outfall 201 is described as follows in the facility’s 2010 NPDES permit:⁵

Internal Outfall 201 (521) (Solvents) (Phase I) (estimated total outfall flow is 2.09 MGD), this internal Outfall consists of the continuous discharge of non-categorical process wastewater, once through cooling water, utility wastewater, and non-process area stormwater from the Solvents/EDC I Plant. This internal outfall discharges to CWR Canal A and then to Outfall 001.

A review of Louisiana’s Electronic Document Retrieval System (EDMS) shows that the facility’s initial NPDES permit was issued in 1977, with renewals being issued in 1980, 1988, 2002, and 2010. Internal Outfall 201 was originally identified as Outfall 005 in the 1977 and 1980 permits, as Internal Outfall 521 in the 1988 and 2002 permits, and as Internal Outfall 201 in the 2010 permit.

⁵ Exhibit 5 (EDMS Document 6054314 at 19 – 20). Unless otherwise noted, the page numbers cited to in the permitting documents are to the EDMS page numbers referenced on the top left hand corner of the document.

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2. The Biomonitoring Requirement in the 1988 Permit Did Not Make Internal Outfall 201 a Final Outfall for Compliance Purposes

Dow contends that the application of "water quality-based standards" to Internal Outfall 201 (521) signaled EPA's and LDEQ's intent to treat Internal Outfall 201 (521) as a final outfall for compliance purposes. In our November 18, 2010 meeting, Dow referenced the biomonitoring requirements imposed on this internal outfall. As you know, biomonitoring is designed to evaluate the impact or potential impact of a wastewater discharge on aquatic life using biological methods.

A review of the relevant permits shows that Dow's argument is incorrect. The 1977 NPDES permit for Dow was signed on April 14, 1977, with an effective date of July 16, 1977. Exhibit 6 (EDMS Document 4058371). Dow's 1980 NPDES Permit is dated November 7, 1979, with an effective date of February 10, 1980. Exhibit 7 (EDMS Document 4058368). This permit was scheduled to expire on March 31, 1981, but apparently was extended because Dow timely filed an application for renewal. A review of the two permits shows that they are very similar. The 1977 Permit has Outfalls 001 – 016, 017, 017A, 018A, 018B, 019 - 021. The 1980 Permit has Outfalls 001- 013, 014A, 014B, 015 – 022. Many of the outfalls have the same limit in both permits. There is also no mention of biomonitoring in either permit.

On May 25, 1984, EPA issued a public notice, fact sheet, and a draft permit. Exhibit 8 (EDMS Document 3945305) and Exhibit 9 (EDMS Document 3945306). The draft permit proposed biomonitoring at Final Outfall 001, and at Internal Outfalls 311, 321, 511/521, 601, and 2001. The accompanying fact sheet regarding Area 500 (which includes Internal Outfall 521) states "[b]iomonitoring was asked for reasons similar to outfall 003 area." Exhibit 8 (EDMS Document 3945305 at 13). The following reasons were given for Area 300:

In order to meet the goals of the Clean Water Act as enumerated in Section 101, the EPA may require under the authority of Section 308 that treated effluents be biomonitoring. The discharge of toxic priority pollutants from outfall 0301 or its potential has been demonstrated earlier in the document, and permit requirements have been established for toxic priority pollutants which represent the degree of effluent reduction attainable through the application of BAT (best available technology economically achievable). While Region 6 feels comfortable with the ability of its BAT permits to control the discharge of toxics, the monitoring of specific chemical parameters alone does not measure toxicity. The most direct and cost-effective approach to measure effluent toxicity is to perform a static bioassay test of the treated effluent.

The permittee will utilize the screening test procedures and LC50 methodology set out in "Methods for Measuring the Acute Toxicity of Effluents to Aquatic Organisms," EPA-600/4-78-012. No presumption should be made should the permittee pursuant to conditions specified in the permit need to establish the LC50 of the treated effluent. The bioassay information will be used by the state

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and EPA in determining which receiving waters may have existing or potential use impairments. The effluent bioassay information by itself will not be used to derive permits limits nor used to show cause and effect relationships.

Exhibit 8 (EDMS Document 3945305 at 10). However, there were no discharge limits related to the biomonitoring (Exhibit 9 at 3)⁶, and thus these tests could not be used for compliance purposes. In its Response to EPA's draft permit requiring biomonitoring, Dow argued against biomonitoring at the internal outfalls, and asserted that the appropriate place to conduct biomonitoring is at the final plant outfall (Final Outfall 001). See Exhibit 10 (EDMS Document 3792351 at 3 – 8).⁷ In addition, Dow requested EPA to:

Change the designation of "... outfall 001" to --- Final Outfall 001 ---- so as to clearly differentiate this outfall from upstream internal outfalls which are not the final discharge points from Dow's facility.

Exhibit 10 (EDMS Document 3792351 at 2).

The final permit (1988 Permit) issued June 17, 1988 with an effective date of July 1, 1988, did require biomonitoring for Final Outfall 001 and Internal Outfalls 311, 321, 511/521, and 2001⁸, but like the draft permit, there were no discharge limitations related to the biomonitoring for any of the outfalls. Exhibit 11 (EDRS Document 3946469 at 2, 10, 12, 20, and 64). Therefore, no enforcement action could be taken for exceeding any discharge limits for the biomonitoring. In addition, the biomonitoring for Internal Outfall 521 (Internal Outfall 201) only lasted two years. Exhibit 12 (EDMS Document 254095 at 13).

In conclusion, the 1988 permit established that biomonitoring was required for limited period of time, and since there were no discharge limitations, it couldn't be used to determine compliance. Furthermore, Dow argued against biomonitoring at Internal Outfall 521 (Internal Outfall 201), and identified the Outfall 001 as the final discharge point from the plant, not Internal Outfall 521. Therefore, EPA never considered Internal Outfall 201 to be a final outfall for compliance purposes.

⁶ There are no EDMS page numbers associated with Exhibit 10.

⁷ There are no EDMS page numbers associated with Exhibit 10.

⁸ The 1988 permit does not mention Outfall 601.

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C. INTERNAL OUTFALL 201 DOES NOT DISCHARGE INTO WATERS OF THE UNITED STATES

As noted in Section A above, the industrial point source discharge exclusion is limited to industrial point source discharges subject to regulation under Section 402 of the Clean Water Act, 33 U.S.C. § 1342. The comment under 40 C.F.R. § 261.4(a)(2) states “this exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.” Therefore, this exclusion would only apply to the direct discharges of pollutants from a point source directly into the waters of the United States. It does not apply to indirect discharges to waters of the United States through an internal outfall which later discharges through an external outfall. *See United States v. Dean*, 969 F.2d 187, 194 (6th Cir. 1992) (exemption only applies to “the actual discharges from a holding pond or similar feature *into surface waters which are governed by the Clean Water Act, not the contents of the pond or discharges into it.*” *Id.* at 194 (emphasis added)). Thus, the Solvents East Ditch and/or the Return Canal would have to meet the definition of a water of the United States in order for the exemption to apply. Furthermore, they cannot collect, store, or treat wastewaters prior to discharge in order for the exemption to apply.

1. The Solvents East Ditch and the Return Canal Collect, Store, or Treat Wastewaters Prior to Discharge

There was no discussion in your letter regarding the Solvents East Ditch and its relationship to the exemption. According to Dow, wastewater from D-710, D-720, and D-730 is discharged into Lined Ditch No. 1. The wastewater then flows into Lined Ditch No. 2, which also receives non-process area stormwater, once through cooling water, and acid tank vent scrubber water. The water from Lined Ditch No. 2 flows through Internal Outfall 201 (521), which flows into the Solvents East Ditch. The wastewater in the Solvents East Ditch flows into CWR [Cooling Water Return] Canal A.⁹ Dow also claims that Lined Ditches Nos. 1 and 2 are tanks subject to the wastewater treatment unit exemption under RCRA (Exhibit 2)¹⁰. Therefore, since the Solvents East Canal collects wastewaters prior to discharge to the Mississippi River through Outfall 001, the exemption does not apply. See Comment under 40 C.F.R. § 261.4(a)(2).

The Return Canal collects wastewater from throughout the facility. Dow’s 2006 Permit Application states that “neutralization is provided throughout the return canal system before

⁹ See E-Mail from Lisa Perry dated November 10, 2009 at 3 (Exhibit 13).

¹⁰ If Lined Ditches Nos. 1 and 2 are not part of Dow’s wastewater treatment facility, then these two units would be illegally storing hazardous waste.

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discharge through Outfall 001.” Exhibit 14 at 2 - 3 (EDMS Document 5514822).¹¹ Also, during the June 2 – 4, 2008 EPA inspection, the inspector was told by Ms. Christine Baldrige that pH polishing is done automatically at R&D Bridge, and that the facility also has the ability to add caustic or acid at other locations. Therefore, since the Return Canal collects and treats wastewater prior to discharge, the exemption also does not apply.

2. EPA, LDEQ, and Dow Have Identified the Mississippi River as a Water of the United States, not the Return Canal

If the Solvents East Ditch is not a water of the United States, the exemption does not apply (even if the Return Canal is a water of the United States), and Dow is disposing of hazardous waste (D002, K016, and K016) into an unpermitted service impoundment. However, the Return Canal is not a water of the United States. Over the years, EPA, LDEQ, and Dow have all identified the Mississippi River as either the “receiving waters” in all of the NPDES permits (and some related documents), and in one case, specifically identified the Mississippi River as a water of the United States:

A. The 1977 and 1980 NPDES Permits identified the Mississippi River as the receiving waters”. Exhibit 7 (EDMS Document 4058371 at 2); Exhibit 8 (EDMS Document 4058368 at 20).

B. The Fact Sheet for the 1984 Draft Permit stated that the discharge is made into the Mississippi River and Bayou Bourbeaux, a water of the United States. Exhibit 8 (EDMS Document 3045305 at 4).

C. The 1984 Draft Permit and the 1988 Final Permit list the receiving waters as the Mississippi River, and that the permittee is authorized to discharge from External Outfall 001 certain wastewaters from the Division Return Canal System to the Mississippi River. Exhibit 9 (EDMS Document 3945306 at 1 – 2); Exhibit 11 (EDMS Document 3946460 at 1 – 2). In addition, the 1988 Permit identifies Outfall 521 as an internal outfall. Exhibit 11 (EDMS Document 394646 at 20).

D. Dow’s October 1991 NPDES Permit Application, Volume 2 states that the receiving waters for Outfall 521 is the Mississippi River. Exhibit 12 (EDMS Document 254095 at 5).

E. The 2000 Fact Sheet for Draft Permit (Final Permit Issued 2002) listed the following: “External Outfall 001 – Receiving Waters – Mississippi River” Exhibit 15 (EDMS Document 2985776 at 4 & 14).

¹¹ There are no EDMS page numbers associated with Exhibit 14.

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F. The 2001 Public Notice for the permit renewal identifies the Mississippi River as the receiving waters. Exhibit 16 (EDMS Document 1048847 at 4). The Response to Comments Appendix states that Final Outfall 001 will discharge into the Mississippi River, and the Internal Outfall 521 discharges to Outfall 001. Exhibit 16 (EDMS Document 1048847 at 18 & 33). The 2002 Permit lists the receiving water as the Mississippi River. It also states that the permittee is authorized to discharge from Outfall 001 to the Mississippi River, and that Internal Outfall 521 is authorized to discharge to Outfall 001. Exhibit 16 (EDMS Document 1048847 at 103, 104, & 144).

G. The 2009 Draft Permit and 2010 Final Permit both list the receiving water as the Mississippi River. They also state that the permittee is authorized to discharge from Outfall 001 (Final). This final outfall consists of the continuous discharge of CWR A to the Mississippi River. Furthermore, they both state that Internal Outfall 201 is authorized to discharge to CWR Canal A and then to Outfall 001. Exhibit 17 (EDMS Document 6490119 at 3 – 4 & 13 – 14); Exhibit 5 (EDMS Document 6054314 at 9 – 10 & 19 – 20).¹²

There is no question that the Mississippi River is a water of the United States. EPA identified the Mississippi River as the applicable waters of the United States for the discharge in the Fact Sheet for the 1984 Draft Permit. Exhibit 8 (EDMS Document 3045305 at 4). Since the purpose of the CWA is to protect navigable waters, the receiving body of water is the relevant body of water. *See Northern Plains Resource Council v. Fidelity Exploration and Development Company*, 325 F.3d 1155, 1162 (9th Cir. 2003) (“In determining whether pollutants are added to the navigable waters for the purpose of the CWA, the receiving body of water is the relevant body of navigable water. A contrary reading of the definition is illogical because the goal of the CWA is to protect receiving waters, not to police the alteration of the discharged waters.”). The purpose of Dow’s NPDES permit is to protect the receiving waters (the Mississippi River), and not the Solvents East Ditch or the Return Canal. In these permitting documents, the receiving waters (Mississippi River) is the relevant body of navigable waters that is being protected by the Permit.

Furthermore, the current permit has biomonitoring at Outfall 001, and not at any internal outfall. The purpose of the biomonitoring is to see if the receiving waters (Mississippi River) may be potentially impaired from Dow’s discharge, not whether the Return Canal is impaired. Therefore, at no time has EPA, LDEQ, or even Dow ever considered the discharge from Internal Outfall 201 into the Return Canal to be a water of the United States. Therefore, the parties have always considered the Mississippi River to be the applicable waters of the United States, not the Return Canal.

¹² This is not a comprehensive list.

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3. The Definition of "Waters of the United States" Excludes the Solvents East Ditch and the Return Canal Because the Solvents East Ditch and the Return Canal are Part of the Facility's Waste Treatment System

The definition of "waters of the United States" at 40 C.F.R. § 122.2 contains the following exclusion:

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 C.F.R. § 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

Both the Solvents East Ditch and the Return Canal are part of the facility's waste treatment system. Wastewater from D-710, D-720, and D-730 is discharged into Lined Ditch No. 1. The wastewater then flows into Lined Ditch No. 2, which also receives non-process area stormwater, once through cooling water, and acid tank vent scrubber water. The water from Lined Ditch No. 2 flows through Internal Outfall 201 (521), which flows into the Solvents East Ditch. The wastewater in the Solvents East Ditch flows into CWR [Cooling Water Return] Canal A.¹³ Dow also claims that Lined Ditches Nos. 1 and 2 are tanks subject to the wastewater treatment unit exemption under RCRA (Exhibit 2). Therefore, the Solvents East Ditch is collecting and conveying wastewater to the Return Canal. Therefore, the Solvents East Ditch is part of the facility's waste treatment system.

The Return Canal collects wastewater from throughout the facility. Dow's 2006 Permit Application states that "neutralization is provided throughout the return canal system before discharge through Outfall 001." Exhibit 14 at 2 - 3 (EDMS Document 5514822).¹⁴ Also, during the June 2 - 4, 2008 EPA inspection, the inspector was told by Ms. Christine Baldrige that pH polishing is done automatically at R&D Bridge, and that the facility also has the ability to add caustic or acid at other locations. Therefore, through the NPDES Permit, EPA and LDEQ have implicitly determined that the Solvents East Ditch and the Return Canal are part of a waste treatment system designed to meet the requirements of the CWA and therefore, under EPA regulation, not a water of the United States.

D. CONCLUSION

In conclusion, the burden of proving the industrial point source discharge exemption is on Dow. As shown above, EPA does not believe that Dow can meet its burden. EPA has shown that for the purpose of the exemption, the outfall in question must discharge directly to waters of

¹³ See E-Mail from Lisa Perry dated November 10, 2009 at 3 (Exhibit 13).

¹⁴ There are no EDMS page numbers associated with Exhibit 14.

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the United States. In this case, Final Outfall 001 directly discharges to the Mississippi River. EPA and LDEQ have never considered Internal Outfall 201 to be the final outfall for compliance purposes. The earlier biomonitoring was done for a limited period of time for the purpose of determining whether water quality was or could be impaired. At no time could the biomonitoring have been used to determine compliance. The Solvents East Ditch collects wastewater and the Return Canal collects and stores wastewater prior to discharge, so the exemption does not apply. EPA, LDEQ, and Dow have consistently considered the Mississippi River, and not the Return Canal System to be waters of the United States. The Solvents East Ditch and the Return Canal are also excluded from the definition of waters of the United States because they are part of the facility's waste treatment system. Therefore, the industrial point source discharge exemption does not apply, and thus Dow is disposing of hazardous waste (D002, K016, and D019) into unpermitted surface impoundments (i.e., the Solvents East Ditch and the Return Canal).

Furthermore, under Dow's reasoning, if the Solvent East Ditch and/or the Return Canal are considered waters of the United States, then every internal outfall would have to be treated as a final outfall, including meeting the pH limits of 6 – 9, and requirements for biomonitoring. This would require a substantial modification to Dow's NPDES permit.

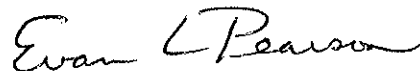
In addition, your January 18, 2011 letter stated that "Dow is not aware of any other streams containing K-listed wastes that are discharged to the canal system." EPA's request was not limited to K-listed wastes. It was meant to cover all listed hazardous wastes. You also stated that Dow was examining whether any listed waste produced from the Vinyls 2 Unit and the Chlorinated Methanes Plant that discharge into an internal outfall. EPA would like to know the status of that investigation.

Finally, also enclosed with this letter is a revised Consent Agreement and Final Order (CAFO), and another copy of our penalty calculations. As I mentioned in my November 22, 2010 voicemail message and my December 3, 2010 e-mail, I forgot to mention at the meeting that assuming that you are not successful with your claim that the industrial point source discharge exemption is applicable, we will have to address the issue of what to do about the improper disposal of hazardous waste into the Solvents East Ditch and Return Canal (unpermitted surface impoundments), along with any other improper disposal of hazardous waste into unpermitted units. This was inadvertently left out of the draft CAFO that we previously sent to you. The revised CAFO addresses this oversight. Given that EPA has rejected the arguments that you submitted, it is time to move the case forward. Therefore, would you please notify me with 20 days whether you plan to submit a counteroffer.

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If you have any questions, please feel free to call me at (214) 665-8074.

Sincerely

A handwritten signature in cursive script that reads "Evan L. Pearson".

Evan L. Pearson
Senior Enforcement Counsel

Enclosures

cc: Ryan Rosser (6EN-HE)

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CONFIDENTIAL SETTLEMENT MATERIALS SUBJECT TO FRE 408

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January 18, 2011

Mr. Evan L. Pearson
Senior Enforcement Counsel, RCRA Enforcement Branch
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1445 Ross Avenue
Dallas, TX 75202-2733

Re: Draft Consent Agreement and Final Order --
The Dow Chemical Company, Plaquemine, Louisiana

Dear Evan:

We appreciated the opportunity to discuss the above-referenced matter with you and Ryan Rosser last month. At our meeting you asked for additional information concerning the historical permitting of Solvents Unit Outfall 521, as well as information on other streams potentially implicated under EPA's interpretation of RCRA applicability. Taking these issues out of order, Dow is not aware of any other streams containing K-listed wastes that are discharged to the canal system. However, Dow is examining whether there may be additional negligible amounts of potentially listed waste produced from the Vinyl 2 Unit and the Chlorinated Methanes Plant that discharge wastewaters after appropriate treatment into an internal outfall. As to the NPDES treatment of Outfall 521, Dow believes the following relevant facts are important in evaluating this matter.

Since the earliest application of the NPDES program to Plaquemine, state and federal regulators have chosen to regulate discharges from the Solvents Unit at the lateral into which Outfall 521 flows as point source discharges. As discussed in LDEQ's 1984 Permit Rationale:

Dow delivers the river water to the intake canal and each unit utilizes cooling water as required and places it in the effluent canal. In addition each unit treats and discharges process and utility after treatment except streams of biodegradable waste water is sent [sic] to the central treatment system which in turn discharges to the very end of the effluent canal. This arrangement requires regulation of each source prior to dilution with huge CW. The single exception is Vinyl I and solvents are located on a lateral to the effluent canal which can be monitored as discharged. For this situation Vinyl I

will be regulated in the lateral which flows by Solvents. Solvents is also regulated downstream. Since similar pollutants are involved, the contribution of Vinyl I can be subtracted from the latter for compliance monitoring purposes.

LDEQ Permit Rationale at DOWLAO000003 (Exhibit 1). In reaching this conclusion the agency was fully aware that:

The process/rainwater stripper overhead product is incinerated on the site. The HCl product is scrubbed and discharged to the canal where it is neutralized.

Id. at DOWLAO000020. And the agency:

... determined to monitor the combined discharges at the existing sampling points 005A and 005B as outfalls 511 and 521 ... 521 contains ... HCl scrubber water ...

Id. at DOWLAO000021-22. Ultimately, the agency chose to require biomonitoring at Outfall 521 in accordance with similar protocols outlined for the 300 Area for the permit written and issued by EPA. *See* Proposed Permit at 18, 124-7 (Exhibit 2).

By applying water quality-based standards to Outfall 521, the agency signaled its decision to treat Outfall 521 as a final outfall for compliance purposes. In the two decades since doing so, both EPA and LDEQ have repeatedly re-permitted the facility under both the NPDES program and the RCRA program without suggesting any issue. Indeed, RCRA permitting materials, dating back to 1985 depict discharges of stripper effluent to the solvents lateral. *See* '85/'86 Plant Schematics (Exhibit 3). At no time has any permitting authority taken issue with this configuration. Similarly, the agencies have pursued Outfall 521-related enforcement exclusively under the NPDES program with the site including this outfall and any excursions from applicable LPDES criteria in its monthly discharge monitoring reports.

This treatment of Outfall 521 as a final outfall for NPDES purposes is consistent with the approach taken for similar outfalls that discharge to the Dow canal system. For instance, LPDES Permit #LA0115100 for the co-located Ineos oxide facility in Plaquemine regulates discharges to the Dow canal system as if such discharge were a final outfall. The AEP facility, now owned by Dow, and the Dexco Polymers facility are handled similarly. Moreover, in choosing to regulate certain outfalls to the canal system as final outfalls for NPDES permitting, the agency is acting well within its discretion. *See Williams Pipe Line Co. v. Bayer Corp.*, 964 F.Supp. 13800, 1325-6 (S.D. Iowa 1997) (holding that wetland upstream of NPDES outfall and used for treatment was water of the United States and that RCRA exclusion applied).

This regulatory treatment of discharges from Outfall 521 is also consistent with the nature of the materials at issue. The stripper water stream is produced from a PCB-rated incinerator that achieves a documented 99.999999% destruction efficiency. In light of such efficiencies, the EPA has chosen not to apply MACT standards to wastewater streams from such units as these streams do not contain significant quantities of HAPs. See 40 C.F.R. Part 63, Subpart EEE (National Emission Standard for Hazardous Air Pollutants from Hazardous Waste Combustors). More specifically, LDEQ identified this same fact as a basis for its choosing to regulate discharges of this stream at Outfall 521:

Process wastewater and rainwater contaminated with purgeable halocarbons can be successfully treated by physical/chemical treatment methods such as stream/air stripping and activated carbon absorption to virtually any degree of reduction.

Permit Rationale at DOWLAO000020-21. The residual concentration of solvents in any effluent from the steam stripping process is essentially unmeasurable and well below the amounts seen in other exempt streams under RCRA's *de minimis* exemption. While Dow does not contend that stripper blowdown qualifies for the *de minimis* exemption, it is clear that discharge of the stream in question is of far less real impact than many other routine discharges from similar plants. In light of this fact, Dow is considering, as you suggested, strategies for delisting the stream in order to avoid any possible confusion as to RCRA applicability.

I hope that the attached material helps clarify Dow's position. As we said in the meeting, we are looking forward to working with you on an efficient and appropriate resolution of this matter. After you have had a chance to review the attached materials, we would appreciate an opportunity to discuss next steps with you. As always, please do not hesitate to call if you have additional comments or questions.

Sincerely,



J. Scott Janoe

JSJ/00320



Fw: Response to Question 5 - Follow up from November 10 Teleconference
Ryan Rosser to: Evan Pearson

03/29/2011 08:41 AM

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----- Forwarded by Ryan Rosser/R6/USEPA/US on 03/29/2011 08:41 AM -----

From: "Minadeo, Joseph (J)" <JMinadeo@dow.com>
To: Rebekah Reynolds/R6/USEPA/US@EPA, Ryan Rosser/R6/USEPA/US@EPA
Cc: "Baldridge, Christine (CE)" <CEBaldridge@dow.com>, "Perry, Lisa (LD)" <LDPerry@dow.com>
Date: 12/04/2009 05:32 PM
Subject: Response to Question 5 - Follow up from November 10 Teleconference

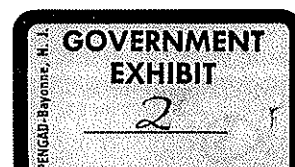
As requested, Dow is submitting its response to your "Question 5" arising out of our prior teleconference meeting. Please do not hesitate to contact me or Lisa Perry should you need additional information.

5. Summarize Dow's interpretation of the application of the industrial point source discharge exclusion in section 1004(27) of RCRA and 40 C.F.R. § 261.4(a)(2) to Dow's disposal of listed and characteristic hazardous waste from the EDC/Solvents Plant to Lined Ditch 1.

The nomenclature of "Lined Ditch 1" is unfortunate in that it obscures the fact that Lined Ditch 1, as depicted in the previously submitted diagram is a polyethylene box that meets the definition of a tank under the waste water treatment unit definition in RCRA. The tank has sufficient integrity to stand on its own without the benefit of surrounding soils. EPA considers that "devices such as flumes, gutters, troughs, and pipes ... are not commonly considered tanks, but ... nevertheless meet the expansive definition of tank in Sec 260.10." November 17, 1980; 45 FR 76068. Pursuant to the terms of the exclusion, such a tank and associated piping is considered a Wastewater Treatment Unit. Accordingly, the discharge of listed and characteristic hazardous wastewaters from the EDC/Solvents Plant to Lined Ditch 1 is subject to the Wastewater Treatment Unit (WWTU) exemption, because Lined Ditch 1 is a Wastewater tank.

At this tank, there is a mechanism through which to neutralize pH and eliminate the characteristic of corrosivity. The wastewater then flows through pipes, which are ancillary equipment in the wastewater treatment system, into the subsequent "Lined Ditch 2" – also a tank – there is a further mechanism to further adjust pH as necessary, as well as consolidation of wastewaters from once-thru cooling water, stormwater, and acid tank vent scrubber water. As such both Lined Ditch 1 and Lined Ditch 2 are points of consolidation of wastewaters for legitimate treatment. Accordingly, the system is designed to remove the characteristic of corrosivity in the exempt tank-based part of the system.

With respect to listed wastes from the EDC/Solvents Plant, in particular K016 or K019, these wastes are managed pursuant to the NPDES permit (issued by US EPA and applicable on the date of inspection) as Internal Outfall 521. Internal Outfall 521 is the point of compliance for the listed waste, and it is located at



the outfall of Lined Ditch 2 (an exempt wastewater treatment unit), and before the wastewater reaches a land-based unit. Accordingly, this outfall is a point source discharge that is regulated and monitored under the Clean Water Act (CWA), and therefore exempt as an industrial waste discharge pursuant to Section 402 of the CWA. 40 CFR 261.4(a)(2)

Based upon the intent, design, and physical characteristics of the wastewater treatment infrastructure, the fact that the wastewater discharge is and has been subject to NPDES permit requirements, and by operation of the cited exclusions, Dow's management of this waste stream is permissible.

Joe Minadeo – Sr. Attorney

The Dow Chemical Company

EH&S & HR Counsel – Louisiana

EH&S Counsel – Plaquemine, Marlborough, Knoxville & Cincinnati Hubs

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9441.1995(05)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

February 17, 1995

MEMORANDUM

SUBJECT: Interpretation of Industrial Wastewater Discharge
Exclusion from the Definition of Solid Waste

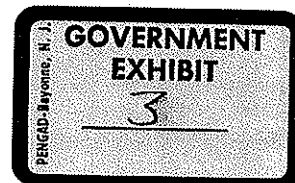
FROM: Michael Shapiro
Director
Office of Solid Waste (5301)

Lisa K. Friedman
Associate General Counsel
Solid Waste and Emergency Response Division (2366)

TO: Waste Management Division Directors, Regions I-X

This memorandum is to clarify that the Resource Conservation and Recovery Act (RCRA) requirements apply to discharges of leachate into groundwater from leaking waste management units, even when the groundwater provides a direct hydrologic connection to a nearby surface water of the United States. The definition of solid waste in RCRA section 1004(27) excludes certain industrial discharges which are point sources subject to permits under the Clean Water Act (CWA); and EPA has said that CWA jurisdiction (under section 402) extends to point source discharges to groundwater where there is direct hydrologic connection between the point source and nearby surface waters of the United States. However, discharges of leachate from waste management units to groundwater are not excluded from the definition of solid waste in RCRA section 1004(27), because the exclusion extends only to "traditional," pipe outfall-type point source discharges, and not to discharges upstream of that point. This memorandum interprets the meaning of point source discharge" solely for the purposes of RCRA section 1004(27), and not for CWA purposes.)

Discussion



RO 11895

RCRA section 1004 (27) excludes from the definition of solid waste "solid or dissolved materials in . . . industrial discharges which are point sources subject to permits under [section 402 of the Clean Water Act]." For the purposes of the RCRA program, EPA has consistently interpreted the language "point sources subject to permits under [section 402 of the Clean Water Act]" to mean point sources that should have a NPDES permit in place, whether in fact they do or not. Under EPA's interpretation of the "subject to" language, a facility that should, but does not, have the proper NPDES permit is in violation of the CWA, not RCRA.

In interpreting and implementing the exclusion, the Agency promulgated a rule at 40 C.F.R. §261.4(a)(2) that states:

The following materials are not solid wastes for the purpose of this part:

. . . industrial wastewater discharges that are point source discharges subject to regulation under Section 402 of the Clean Water Act, as amended.

EPA's interpretation of the rule's narrow scope is set out in an explanatory "Comment" that also appears in the Code of Federal Regulations following the final rule language:

This exclusion on applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.

40 C.F.R. §261.4(a)(2) (comment) (emphasis added). This explanatory comment to the rule emphasizes that the exclusion is a modest and narrow one. Moreover, the comment reflects EPA's intent, at the time it promulgated the rule, that the exclusion apply solely to the traditional pipe outfall type situation (i.e., ultimate release to waters of the United States). As EPA explained in the preamble:

The obvious purpose of the industrial point source discharge exclusion in section 1004(27) was to avoid duplicative regulation of point source discharges under RCRA and the Clean Water Act. Without such a provision, the discharge of wastewater into navigable waters would be "disposal" of solid waste, and potentially subject to regulation under

both the Clean Water Act and RCRA Subtitle C. These considerations do not apply to industrial wastewaters prior to discharge since most of the environmental hazards posed by wastewaters in treatment and holding facilities -- primarily groundwater contamination -- cannot be controlled under the Clean Water Act or other EPA Statutes.

45 Fed. Reg. 33098 (May 19, 1980) (emphasis added).

Thus, EPA based this exclusion on the need to avoid duplicative regulation under two statutes for discharges that occur at the end-of-the-pipe (i.e., discharges directly to surface water.) EPA did not intend that the exclusion cover groundwater discharges from treatment processes that occur prior to the "end-of-the-pipe" discharge. Thus, this exclusion only covers a subset of point sources regulated under the CWA.

Therefore, wastewater releases to groundwater from treatment and holding facilities do not come within the meaning of the RCRA exclusion in 40 C.F.R. §261.4(a)(2), but rather remain within the jurisdiction of RCRA. In addition, such groundwater discharges are subject to CWA jurisdiction, based on EPA's interpretation that discharges from point sources through groundwater where there is a direct hydrologic connection to nearby surface waters of the United States are subject to the prohibition against unpermitted discharges, and thus are subject to the NPDES permitting requirements. See 55 Fed. Reg. 47990, 47997 (Nov. 16, 1990) (storm water permit application regulations); 56 Fed. Reg. 64876, 64892 (Dec. 12, 1991) (Indian water quality standards regulations); 58 Fed. Reg. 7610, 7631 (Feb. 8, 1993) (Region 6 general permit for feedlots).

If you have any questions on this memorandum, please call Kathy Nam of OGC at (202) 260-2737 or Mitch Kidwell of OSW at (202) 260-4805.

March 20, 1986

MEMORANDUM

SUBJECT: Determination of the Presence of Wastewater Treatment
Sludges and/or the Presence of Wastewaters

- F006 Wastewater Treatment Sludges from Electroplating
- K001 Bottom Sediment Sludges from the Treatment of
wastewaters from Wood Preserving

FROM: Cate Jenkins, Ph.D.
Chemist, Listing Program
Waste Identification Branch WH 562 B)

TO: Matt Straus
Chief, Waste Identification Branch

Discussed below is some information that may be useful in any determination of what point a wastewater no longer is a wastewater, but is instead a treated effluent. This question is being raised at the present time by both electroplaters and wood treaters who feel that after a given number of treatment steps, their wastewaters are adequately pure with respect to meeting any effluent limitations imposed by the Clean Water Act. They feel that any subsequent treatment units (and any concomitant sludges generated thereby) should be exempt from regulation under RCRA, since they have meet the treatment criteria imposed by the CWA.

GUIDANCE FROM THE LISTING BACKGROUND DOCUMENTS FOR F006 AND K001

The listing background documents for K001 wood preserving wastewater treatment sludges and F006 electroplating wastewater treatment sludges gives no guidance as to when an effluent is a wastewater and at what point this wastewater becomes a treated effluent. The F006 and K001 background documents are silent as to when a wastewater is considered "treated" or not. They do speak about points of discharge, which in no way implies treatment.



RO 11139

The K001 background document speaks of several treatment steps for wastewaters in series, without any indication in of the Agency's belief that at some point, the wastewater is "treated" where it no longer is capable of generating the wastewater treatment sludges described by the listing:

"After biological treatment, treatment by irrigation may be used. This process typically consists of (1) settling, (2) storage, (3) aerated treatment, (4) spray irrigation, and (5) runoff storage. . ."

All these steps are termed to be treatment.

DEFINITION OF A WASTEWATER VS. A TREATED EFFLUENT UNDER THE CLEAN WATER ACT

The EGD Development Documents for the wood preserving and electroplating industries also speak of wastewaters being subjected to any of a number of wastewater treatment steps. No language is given for a point within a facilities grounds or even after the point of discharge where the wastewater no longer is a wastewater, but is instead a "treated effluent." This is because the standards under the CWA were developed from a standpoint of practicality and economically achievable treatment levels.

Additional treatment has always been considered possible over and beyond that stipulated by the effluent limitations. Under the CWA, degrees of treatment are the basis for the standards. This can be seen by the fact that there are different standards for new plants over those for an existing plant. If the levels are different, both cannot be completely treated.

GUIDANCE FROM RCRA AS TO WHEN A WASTEWATER TREATMENT SLUDGE IS EXEMPT FROM REGULATION

The language of Part 261 clearly differentiates the point at which wastewaters or effluent (not wastewater treatment sludges) are under the authority of the CWA or RCRA:

261.4 (a) (2) "Materials which are not solid wastes. . . Industrial wastewater discharges that are point source discharges subject to regulation under Section 402 of the Clean Water Act. . . This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment. . ."

Since the Clean Water Act applies to discharges to the navigable surface waters, point source discharges cannot apply to some internal midway point in the wastewater treatment train on the grounds of a facility or another facility (unless it is a

POTW) which treats, stores, or collects these wastewaters. Even if the wastewaters themselves were exempt from regulation under RCRA while they were being treated, collected, or stored prior to discharge, the sludges are not exempt as the result of any exemption of the wastewater. It may even be that RCRA regulated sludges can be generated after the point of discharge (except for the current exemption of POTW sludges).

SLUDGE GENERATED AS A RESULT OF WASTEWATER COLLECTION, STORAGE, OR DISPOSAL, INSTEAD OF WASTEWATER TREATMENT

Under the CWA, achieving zero discharge as the result of wastewater disposal or storage on-site is considered to be a "Pretreatment Standard". Therefore, the retention of wastewater is considered a treatment practice under the CWA.

As far as RCRA is concerned, any process which does in fact render a waste less hazardous or more amenable to storage or disposal is considered to be treatment. Most wastewater storage or disposal practices will generate a sludge and will subsequently "purify" the wastewater as it evaporates to the atmosphere or percolates down to ground water. Often times this treatment is not consciously intended by the facility. But without its occurrence, the storage or disposal technique for the wastewater would not be possible.

For example, if dissolved substances, suspended oils, or solids were not filtered out by the surface soils in a land treatment unit (spray irrigation field), then the wastewater along with these substances would travel directly to ground water. Another example would be a wastewater percolation pond; if it did not retain dissolved substances and suspended oils and solids in the bottom sediments while cleaner water percolated downward, then this total load would reach ground water without any attenuation. Or, if an evaporation pond released all of the contaminant load directly to the air, instead of selectively evaporating primarily water, then a fairly large air emissions problem could result.

GUIDANCE FROM RCRA LISTING BACKGROUND DOCUMENTS AS TO THE CONCENTRATIONS OF TOXICANTS IN THE WASTEWATER TREATMENT SLUDGES

The RCRA listing background documents cannot be examined by a facility or by Headquarters staff to make a determination as to whether a wastewater treatment sludge with a given contaminant concentration "meets the listing description." (A delisting would consider whether the waste and the hazardous properties for which it was listed, an entirely different determination.)

This is because the Agency did not give a toxicant criteria level as a basis for listing the generic class of wastes as hazardous. One cannot be imposed at this time without going

through due process and subjecting the revised listing to public comment.

For the F006 and K001 listings, the Agency listed a class of wastes by a listing description. Its authority to do so (without giving toxicant concentration criteria as a basis) is contained in Part 261.11 (b):

“The Administrator may list classes or types of solid waste as hazardous waste if he has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in Section 1004 (5) of the Act.” (Emphasis added.)

USE OF DELISTING PROCEDURES UNDER PART 260.20

If a facility believes that its particular waste does not have the hazardous properties for which the class or type of waste described by the listing description was listed, then it may submit a delisting petition. This is common practice, particularly for F006 wastewater treatment sludges. Even if the delisting process were not statutorily required, its historical use gives much weight to its continued usage. The Agency cannot simply issue a memorandum giving facilities delisting criteria and subsequently an across the board delisting.

If a change for electroplaters or wood preservers is thought prudent, then a specific exclusion should be promulgated through rulemaking, as we did with pickle liquor sludges. Alternatively, we could withdraw the F006 listing and rely instead on the EP Toxicity characteristics, thus allowing facilities to delist themselves.

USE OF THE VHS DELISTING MODEL VS. EFFLUENT LIMITATIONS UNDER THE CWA FOR DETERMINING RISKS FROM WASTEWATERS AND ANY SUBSEQUENT SLUDGES THEY MAY GENERATE

The effluent limitations for electroplaters under the CWA is a lower health-based standard than the considerations used under RCRA. That health was only part of the basis for the CWA effluent limitations can be seen by the fact that different concentrations limits or loadings are imposed for new or existing facilities. Also, any health considerations which were considered under the CWA were based strictly on the effects of using surface waters. No consideration was ever given for the contamination of ground water from effluents which are released to navigable waterways or during the various on-site treatment scenarios.

Under the VHS delisting model, ground water contamination is specifically considered (but not surface contamination). Our VHS specifically deals with considerations of toxicant loadings to either surface impoundments or land treatment

units from a wastewater effluent, and any subsequent ground water contamination resulting from this loading by way of concentrating a wastewater effluent. This is a working, in-place mechanism for determining the hazards of wastewaters while on-site.

EXAMPLES OF RISKS TO HUMAN HEALTH AND THE ENVIRONMENT AS THE RESULT OF USING CWA STANDARDS

Three examples will quickly show what types of risks to human health and the environment would result from using the CWA effluent limitation standards for the effluent at some internal point within a plant wastewater management system.

Facility A is an electroplater, a new plant complying with the 1.71 ppm total chromium effluent limitation. Often this plant has their wastewater below this concentration level even before it treats/disposes of its wastewater on two spray irrigation fields totaling 14.8 acres. If we apply the CWA criteria, however, we must always assume that his concentrations are at this limit before he treats/disposes of the wastewater by spray irrigation.

The facility generates 30,000 gallons of wastewater a day. We could make the assumption that the chromium from this wastewater precipitates out onto the top 1 inch of soil. Then the facility would be increasing the surface soil concentrations by approximately 3 ppm chromium per year. If the facility employed spray headers with a higher evaporation rate and used only 1/3 of the spray field area, then the chromium concentrations would be increasing by 9 ppm per year. Until an EP test was run, we cannot assume that this level will be effectively bound to the soil. After time, the soils could become EP toxic, even with no ground water contamination potential. If this facility is exempted because of the CWA standards, then real harm to the environment could result.

Facility B is a pentachlorophenol (PCP) wood preserver who disposes of his wastewater in an on-site evaporation/percolating pond. If the CWA standard was imposed as a criteria for determining whether or not a K001 wastewater treatment sludge could be generated as a result of the treatment/storage/disposal of the wastewaters in that pond, then the following criteria would apply. Under the effluent limitations for existing wood preserving plants, a total concentration of 100 ppm oil and grease (as an indicator of pentachlorophenol or creosote). Since a 7% PCP concentration in fuel oil is commonly used, one can assume that 7 ppm of this allowable oil and grease is PCP.

The actual PCP concentration in this facility's final treatment/disposal/storage pond is only 1.9 ppm, which would be well within the CWA criteria for discharge to surface waters. (Many plants easily achieve this 7 ppm PCP level well before the end of their wastewater treatment train.)

Yet the sludges at the bottom of the facility's final pond are 18,000 ppm PCP. This could result in a substantial ground water contaminating potential, since similar facilities with this amount of PCP in the sludges of surface impoundments have ground water contamination.

Use of CWA criteria for on-site wastewater management units is very dangerous, even if these criteria were entirely health based. This is because wastewater treatment/storage/disposal units on-site typically concentrate substances out of the ground water.

The third example is a facility utilizing either an optional or required mass-loading effluent limitation under the CWA. A facility, perhaps even Facility A, decides that it has done an excellent job of treating and disposing of its wastewater on-site with no discharge. Since for the electroplating industry, a certain loading of toxic metals may be released each day as an alternative to the concentration limits, the facility might simply dump toxic metal sludges from tanks into surface waters or the land, since the CWA is less stringent than the EP Toxic Waste requirements.

USE OF THE VHS MODEL ALONE TO DELIST WASTEWATER TREATMENT UNITS

There may be some danger in using the VHS model alone without any consideration for the toxicant concentrations in surface soils of land treatment units or sludges in surface impoundments. Although the VHS-model does not consider sorption on the soil materials as an attenuating factor in any potential ground water contamination, this very real sorption of toxicants by surface soils or sediments could lead to the eventual build-up of high concentrations of toxicants. The smaller the unit (with a given waste loading) the greater the potential for this occurrence.

CRITERIA FOR DETERMINING THE PRESENCE OF WASTEWATER TREATMENT SLUDGES

A wastewater treatment sludge will inevitably be generated as the result of any wastewater management practice, as discussed above. The generation of a sludge does not mean that the sludge has the hazardous properties for which it was listed. In other words, a sludge is a solid waste, even if it is nothing but calcium carbonate from water.

The mechanism for the formation of sludges from waters may be either precipitation of suspended solids or other constituents in the wastewater, the absorption or adsorption of substances from the wastewater onto the bottom matrix of the unit, or the filtration of contaminants onto a soil matrix or other media. These filtration processes may consist of the physical removal of suspended solids or the adsorption or dissolved or suspended liquid substances onto the filtration media.

In addition, biological or other degradation processes (photolysis, hydrolysis, chemical conversion) may convert substances in either the upper water layers or the sludge layer itself to other products which may subsequently become constituents of the sludge by precipitation, adsorption, absorption, or filtration.

Laboratory tests may be used to determine whether or not a sludge is generated from wastewater management. Basically, these tests certify whether or not anything is present in a wastewater management unit over background. Think of the difference between a newly excavated pond which has just had distilled water added to it. Then think of the changes over time as sediment sludges start accumulating. If these sludges would have "happened" even without the addition of wastewaters, it makes no difference to the determination of whether or not the sludges meet the listing description (the mixture rule).

Tests to Quantify the Generation of a Sludge from Wastewater

A demonstration of whether or not a land based surface impoundment had generated a sludge would involve a determination that the substances on the bottom or the subsurface were not the same as would be found in freshly exposed soil layers at the same depth. Similarly, a spray irrigation field or any other filtration device designed to remove either suspended solids, dissolved substances, or suspended liquid substances, also would generate a sludge if the character of the original filtration material or native soils had changed.

In order to make a quantified determination of sludge formation as a result of wastewater being treated, stored or disposed of in any unit, a positive determination of a difference between virgin material and the material in the unit is all that is necessary. Suggested physical/chemical tests to make these determinations for several types of units are given below.

1. Land-Based Surface Impoundments, Spray Irrigation Fields or Other Land Treatment Units, Land-Based Filtration Units, or Injection Wells - Suitable tests to differentiate between the material in the bottom, surface, or subsurface of the unit to values for soil that would occur naturally (surface soils or newly excavating subsurface soil material at a similar depth) are listed below. If no positive difference is established by one of these tests, then additional ones need to be made to make an adequate determination.

- a. The presence of live or dead microbial or other organism populations.
- b. Ash content
- c. Total metals
- d. Oil and grease
- e. Total organic carbon
- f. Nitrogen, phosphorous, and chloride content
- g. pH
- h. Soil morphology, including horizons, color, texture, structure, consistence, concretions, coarse fragments, root distribution, pedological features, saturated hydraulic conductivity, bulk density, and moisture regime.
- i. Key substances of concern
- j. Degradation products of substances of concern
- k. Any tests necessary to differentiate the filtration media from virgin filtration media, as above

2. Impermeable Lined Surface Impoundments or Tanks -

Suitable tests to differentiate between the material in the bottom, surface, or subsurface of the unit to values that would occur in a new unit not having an opportunity to generate sludge are listed below. If no positive difference is established by one of these tests, then additional ones need to be made to make an adequate determination.

- a. Determination of a sludge layer on top of the lining material of the unit by any of the following:
 - (1). Visual Observation
 - (2). Measurement with a sonic or other sludge layer detection device
 - (3). Detection by physically inserting some manual sensing device
- b. If wastewater or sludges have leaked or spilled from the unit, then the following tests on the subsurface or perimeter soils should be performed:
 - (1). The presence of live or dead microbial or other organism populations
 - (2). Ash content
 - (3). Total metals
 - (4). Oil and grease
 - (5). Total organic carbon
 - (6). Nitrogen, phosphorous, and chloride content
 - (7). Soil morphology (as above)
 - (8). pH
 - (9). Analytical tests for key substances of concern
 - (10). Degradation products of substances of concern associated with unit

I hope this information will be useful to you. If you have any questions or need any other supporting data, please do not hesitate to ask.

Cc: Amy Swoboda
Walker Smith
Joyce Rechtshaffen
Elizabeth Maxwell
Andrea Zelman

BOBBY JINDAL
GOVERNOR



HAROLD LEGGETT, Ph.D.
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

OCT 14 2009

CERTIFIED MAIL 7009 1680 0001 7227 2271 **-RETURN RECEIPT REQUESTED**

File No.: LA0003301
AI No.: 1409
Activity No.: PER20060028

Ms. Sharon Cole, Site Director
The Dow Chemical Company
Louisiana Operations
P.O. Box 150
Plaquemine, Louisiana 70765-0150

RE: Louisiana Pollutant Discharge Elimination System (LPDES) permit to discharge treated process wastewaters, utility wastewaters, sanitary wastewater, and stormwater runoff to the Mississippi River (Outfalls 001 and 002) from an existing organic chemical manufacturing plant located at 21255 Louisiana Highway 1 in Plaquemine, Iberville and West Baton Rouge Parishes.

Dear Ms. Cole:

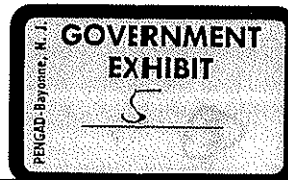
The Louisiana Department of Environmental Quality (LDEQ)/Office of Environmental Services (OES) has received and evaluated comments submitted by The Dow Chemical Company, Louisiana Operations in response to the public notice published in the Office of Environmental Services Public Notice Mailing List on August 4, 2009 and the WEST SIDE JOURNAL of Port Allen and the PLAQUEMINE POST-SOUTH on August 6, 2009. The Office's response to comments submitted by The Dow Chemical Company, Louisiana Operations are summarized below. No comments have been received from the general public.

Comment No. 1

Comment: Part 1 – pages 1 & 2 Effective Date of the Permit

Dow noted in the fact sheet that the effective date will be 120 days beyond the issuance date of the final permit to allow for implementation. Dow requests that this provision be recognized in the final permit. The implementation of the revised permit as proposed is anticipated to include revision of operating procedures, operator training and physical modification of the current outfall configuration.

Response: The title page in the final permit will reflect an effective date of February 1, 2010.





PERMIT NUMBER
LA0003301
AI No.: 1409

OFFICE OF ENVIRONMENTAL SERVICES
Water Discharge Permit

Pursuant to the Clean Water Act, as amended (33 U.S.C. 1251 et seq.), and the Louisiana Environmental Quality Act, as amended (La. R. S. 30:2001 et seq.), rules and regulations effective or promulgated under the authority of said Acts, and in reliance on statements and representations heretofore made in the application, a Louisiana Pollutant Discharge Elimination System permit is issued authorizing

The Dow Chemical Company
Louisiana Operations
P.O. Box 150
Plaquemine, Louisiana 70765-0150

Type Facility: organic chemical manufacturing plant

Location: 21255 Louisiana Highway 1 in Plaquemine
Iberville/West Baton Rouge Parishes


Receiving Waters: Mississippi River (Outfalls 001 and 002) - Subsegment No. 070301

to discharge in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, and III attached hereto.

This permit shall become effective on 01 February 2010

This permit and the authorization to discharge shall expire five (5) years from the effective date of the permit.

Issued on 13 October 2009


Cheryl Sonnier Nolan
Assistant Secretary

Part I
Permit No. Draft LA0003301

Page 2
AJ No. 1409

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

Outfall 001 (Final) (estimated total outfall flow is 597 MGD), this final outfall consists of the continuous discharge of CWR Canal A to the Mississippi River. CWR Canal A receives flow from Canals B, C, D, E, and F, and includes the wastewaters described in all internal outfalls within the manufacturing areas, as well as, stormwater runoff, once through cooling water, and utility wastewater flows (i.e., hydrostatic test water, hydroblast water, deluge test water, fire hydrant test water, condensate, utility discharge from turnaround activities, de-ionized (DI) water, air conditioner condensate, cooling tower blowdown, regeneration streams, water treatment discharges, steam traps, and clean equipment/slab wash down).

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements		
	STORET Code	Other Units				Measurement Frequency	Sample Type
		(lbs/day, UNLESS STATED) (ug/L, UNLESS STATED)					
CONVENTIONAL AND NONCONVENTIONAL		Monthly Average	Daily Maximum	Monthly Average	Daily Maximum		
Flow-MGD	50050	Report	Report	---	---	Continuous	Pump Curve (*1)
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	82581	---	0 (*2)	---	---	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	82582	---	446 (*2)	---	---	Continuous	Recorder
pH Minimum/Maximum Values (Standard Units)	00400	---	---	Report (*2) (Min)	Report (*2) (Max)	Continuous	Recorder
Chlorides	82209	-	-	Report	Report	1/Year	Grab
<u>Volatile Compounds</u>							
Benzene	34030	-	-	Report	Report	1/Year	Grab
Chloroform	32106	-	-	Report	Report	1/Year	Grab
1,2-Dichloropropane	34541	-	-	Report	Report	1/Year	Grab
Methylene Chloride	34423	-	-	Report	Report	1/Year	Grab
Tetrachloroethylene	34475	-	-	Report	Report	1/Year	Grab
1,1,2,2-Tetrachloroethane	34516	-	-	Report	Report	1/Year	Grab
Trichloroethylene	39180	-	-	Report	Report	1/Year	Grab
Vinyl Chloride	39175	-	-	Report	Report	1/Year	Grab
<u>Base Neutral Compounds</u>							
Acenaphthene	34205	-	-	Report	Report	1/Year	Grab
Acenaphthylene	34200	-	-	Report	Report	1/Year	Grab
Anthracene	34220	-	-	Report	Report	1/Year	Grab
Benzo(a)anthracene	34526	-	-	Report	Report	1/Year	Grab
Benzo(a)pyrene	34247	-	-	Report	Report	1/Year	Grab
3,4-Benzofluoranthene	34230	-	-	Report	Report	1/Year	Grab
Benzo(k)fluoranthene	34242	-	-	Report	Report	1/Year	Grab
Chrysene	34320	-	-	Report	Report	1/Year	Grab

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Permit No. Draft LA0003301

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EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 001 continued)

Effluent Characteristic	Storet Code	Discharge Limitations				Monitoring Requirements	
		(lbs/day, unless stated)		Other Units		Measurement Frequency	Sample Type
		Monthly Average	Daily Maximum	Monthly Average	Daily Maximum		
Fluoranthene	34376	-	-	Report	Report	1/Year	Grab
Flourene	34381	-	-	Report	Report	1/Year	Grab
Hexachlorobenzene	39700	0.5	1.18	-	-	1/Week	24-hr. Composite
Hexachlorobutadiene	34391	-	-	Report	Report	1/Year	Grab
Naphthalene	34696	-	-	Report	Report	1/Year	Grab
Phenanthrene	34461	-	-	Report	Report	1/Year	Grab
Pyrene	34469	-	-	Report	Report	1/Year	Grab

WHOLE EFFLUENT TOXICITY TESTING (ACUTE) (*3)

Parameter	Storet Code (*4)	(Percent %, UNLESS STATED)			Measurement Frequency (*5)	Sample Type
		Monthly Average	48-Hour Minimum	Monthly Minimum		
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 48-Hour Acute <u>Pimephales promelas</u>	TEM6C	Report	Report	Report	1/quarter	24-hr. Composite
NOEC, Value [%], Lethality, Static Renewal, 48-Hour Acute <u>Pimephales promelas</u>	TOM6C	Report	Report	Report	1/quarter	24-hr. Composite
NOEC, Value [%], Coefficient of Variation, Static Renewal, 48-Hour Acute, <u>Pimephales promelas</u>	TQM6C	Report	Report	Report	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 48-Hour Acute <u>Daphnia pulex</u>	TEM3D	Report	Report	Report	1/quarter	24-hr. Composite
NOEC, Value [%], Lethality, Static Renewal, 48-Hour Acute <u>Daphnia pulex</u>	TOM3D	Report	Report	Report	1/quarter	24-hr. Composite
NOEC, Value [%], Coefficient of Variation, Static Renewal, 48-Hour Acute, <u>Daphnia pulex</u>	TQM3D	Report	Report	Report	1/quarter	24-hr. Composite

There shall be no discharge of floating solids or visible foam in other than trace amounts.

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EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 001 continued)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 001, at the point of discharge from the intake to the Cooling Water Return pump station prior to pumping the cooling water over the levee and into the Mississippi River at Latitude 30°18'35", Longitude 91°13'48".

FOOTNOTE(S):

- (*1) The daily flow is estimated by using best engineering judgment.
- (*2) The pH shall be within the range of 6.0 - 9.0 standard units at all times subject to the continuous monitoring pH range excursion provisions at Part II.I.
- (*3) See Part II.P for biomonitoring requirements.
- (*4) Given test method or other, as approved at 40 CFR Part 136.
- (*5) Additional toxicity samples may be required upon usage of chlorine and/or biofouling agents if the quarterly sample was not conducted during these conditions.

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EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning the effective date and lasting through cessation of process wastewater discharges from the Ethylene Dichloride manufacturing operations (*1) the permittee is authorized to discharge from:

Internal Outfall 201 (521) (Solvents) (Phase I) (estimated total outfall flow is 2.09 MGD), this internal outfall consists of the continuous discharge of non-categorical process wastewater, once through cooling water, utility wastewater, and non-process area stormwater from the Solvents/EDC I Plant. This internal outfall discharges to CWR Canal A and then to Outfall 001.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Storet Code</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
		<u>(lbs/day, unless stated)</u>		<u>Other Units</u>		<u>Measurement Frequency</u>	<u>Sample Type</u>
		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>		
<u>Conventional/Nonconventional</u>							
<u>Nonconventional</u>							
Flow – MGD	50050	Report	Report	-	-	1/Week	Estimate
<u>Volatile Compounds</u>							
1,2-Dichloroethane	32103	-	-	-	574	1/Week	Grab
Tetrachloroethylene	34475	-	-	-	164	1/Week	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Internal Outfall 201 (521), at the point of discharge from the Solvents/EDC I Plant TTU lined ditch, from a catwalk in the northeast corner of Block 15, prior to mixing with other waters in CWR Canal A at Latitude 30°18'52", Longitude 91°14'00".

FOOTNOTE(S):

- (*1) The permittee shall notify the Office of Environmental Services, the Office of Environmental Compliance – Permit Compliance Unit, and the Capital Regional Office in writing at least 30 days prior to discharging under the Phase II conditions.

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EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning cessation of process wastewater discharges from the Ethylene Dichloride manufacturing operations and lasting through the expiration date the permittee is authorized to discharge from:

Internal Outfall 201 (521) (Solvents) (Phase II) (estimated total outfall flow is 2.09 MGD), this internal outfall consists of the continuous discharge of non-categorical process wastewater, once through cooling water, utility wastewater, and non-process area stormwater from the Solvents/EDC I Plant. This internal outfall discharges to CWR Canal A and then to Outfall 001.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Storet Code</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
		(lbs/day, unless stated)		Other Units (ug/l, unless stated)		<u>Measurement Frequency</u>	<u>Sample Type</u>
<u>Conventional/</u> <u>Nonconventional</u> <u>Nonconventional</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>		
Flow - MGD	50050	Report	Report	-	-	1/Week	Estimate
<u>Volatile Compounds</u>							
1,2-Dichloroethane	32103	-	-	-	574	1/Year	Grab
Tetrachloroethylene	34475	-	-	-	164	1/Week	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

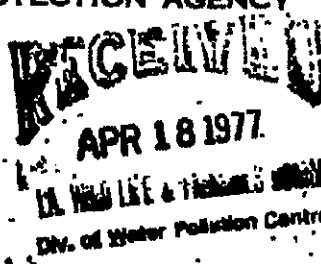
Internal Outfall 201 (521), at the point of discharge from the Solvents/EDC I Plant TTU lined ditch, from a catwalk in the northeast corner of Block 15, prior to mixing with other waters in CWR Canal A at Latitude 30°18'52", Longitude 91°14'00".



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VI

DALLAS, TEXAS 75270



APR 14 1977

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (492227)

Gerald W. Daigre
Environmental Control Manager
Dow Chemical U.S.A.
P. O. Box 150
Plaquemine, Louisiana 70764

Re: Application to Discharge to Waters of the United States
Permit No. LA0003301

Dear Mr. Daigre:

Enclosed is a copy of the permit which this agency proposes to issue under the authority of the Federal Water Pollution Control Act Amendments of 1972.

This National Pollutant Discharge Elimination System (NPDES) permit regulating the discharge of pollutants from your facility will be issued and effective as indicated on the permit and the enclosed public notice pursuant to 40.CFR 125, as amended. A copy of the Regional Administrator's determination regarding this permit will be mailed to you no less than 30 days after the date of the enclosed public notice.

Should you have any questions concerning any part of the permit, please feel free to contact the Permits and Support Branch at the above address or telephone (214) 749-1983.

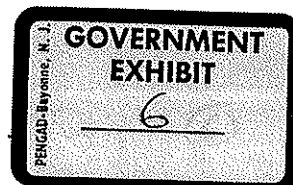
Sincerely yours,

/s/ John C. White

John C. White
Regional Administrator

Enclosures

cc w/permit copy:
Louisiana Stream Control Commission



Permit No. LA0003301
Application No. LA-0XK-2-000436

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Water Pollution Control Act, as amended,
(33 U.S.C. 1251 et. seq; the "Act"),

Dow Chemical U.S.A.
Louisiana Division
P. O. Box 150
Plaquemine, Louisiana 70764

is authorized to discharge from a facility located at

Plaquemine, Louisiana

to receiving waters named

The Mississippi River

in accordance with effluent limitations, monitoring requirements and other conditions set forth
in Parts I, II, and III hereof.

This permit shall become effective on July 16, 1977

This permit and the authorization to discharge shall expire at midnight, November 27, 1979

Signed this 14th day of April 1977


John C. White
Regional Administrator



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VI
1201 ELM STREET
DALLAS, TEXAS 75270**RECEIVED**
JAN 14 1980

NPDES DETERMINATION

E.A. DEPT. WILDLIFE & FISHERIES
Div. of Water Pollution Control

After considering the facts and the requirements and policies expressed in Public Law 95-217 and implementing regulations, I have determined that Permit No. LA0003301, Dow Chemical U.S.A., be issued and effective as proposed in Public Notice dated 11-10-79, subject to timely certification (or waiver thereof) by the state certifying agency, provided, however, that any condition(s) contested in a request for an Evidentiary Hearing submitted within 30 days from receipt of this determination may be stayed in accordance with new 40 CFR 124.61 (44 Fed. Reg. 32937, June 7, 1979) if the request for a Hearing is granted.

Dated: January 10, 1980

Diana Dutton
Director
Enforcement Division (6AE)GOVERNMENT
EXHIBIT

7

This permit includes minor revisions made in accordance with the Regional Administrator's determination. Please retain this permit as your official copy.

Permit No. LA0003301
Application No. LA0003301

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"),

Dow Chemical U.S.A.
Louisiana Division
P.O. Box 150
Plaquemine, Louisiana 70764

is authorized to discharge from a facility located at

Plaquemine, Louisiana

to receiving waters named

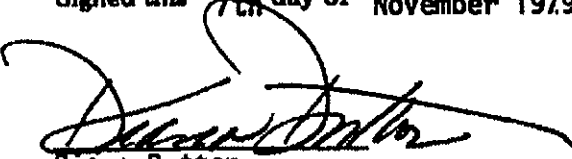
the Mississippi River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on February 10, 1980

This permit and the authorization to discharge shall expire at midnight, March 31, 1981

Signed this 7th day of November 1979.


Diana Dutton
Director
Enforcement Division

MAILED 25 MAY 1984

MAY 25 1984

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (P 455 383 719)

Mr. G. W. Daigre
Environmental Control Manager
Dow Chemical U.S.A.
Louisiana Division
Building 2501
P.O. Box 150
Plaquemine, Louisiana 70764

Re: Application to Discharge to Waters of the United States
Permit No. LA0003301

Dear Mr. Daigre:

Enclosed is the public notice, fact sheet, and a copy of the permit which this Agency has drafted under the authority of the National Pollutant Discharge Elimination System. A copy of the final permit will be mailed to you when the Agency has made a final permit decision.

Should you have any questions concerning any part of the permit, please feel free to contact the Permits Branch at the above address or telephone (214) 767-4375.

Sincerely,

/s/Myron O. Knudson

Myron O. Knudson, P.E.
Director, Water Management Division (G1)

Enclosures

cc w/permit copy:
Louisiana Department of Natural Resources

12/19/83:DEHN:ic:M5:353DEH01

		CONCURRENCES			
SYMBOL	WUPA	6WPA	5/16		
SURNAME	BACHER	HANNE	55ch/29cr		
DATE	5/11/84				

EPA Form 1320-1 (12-70)

OFFICIAL FILE
GPO : 1983 O - 401



Advertising Order Number 4T-3298-NNLX
U.S. Environmental Protection Agency
Public Notice of Draft NPDES Permit(s)

May 26, 1984

This is to give notice that the U.S. Environmental Protection Agency, Region 6, has formulated a Draft Permit for the following facility (facilities) under the National Pollutant Discharge Elimination System. Development of the draft permit(s) was based on a preliminary staff review by EPA, Region 6, and consultation with the State of Louisiana. The State of Louisiana is currently reviewing the draft permit(s) for the purpose of certifying or denying Certification of the permit(s). The permit(s) will become effective within 30 days after the close of the comment period unless:

- a. The State of Louisiana denies certification, or requests an extension for certification prior to that date.
- b. Comments received prior to June 26, 1984 warrant a public notice of EPA's final permit decision.
- c. A public hearing is held requiring delay of the effective date.

EPA's contact person for submitting written comments, requesting information regarding the draft permit, and/or obtaining copies of the permit and the Statement of Basis or Fact Sheet is:

Mr. Mark Satterwhite
Permits Branch (6W-PS)
U.S. Environmental Protection Agency
Interfirst Two Building
1201 Elm Street
Dallas, Texas 75270
(214) 767-2765

EPA's comments and public hearing procedures may be found at 40 CFR 124.10 and 124.12 (Federal Register volume 45, No. 98, Monday, May 19, 1980). The comment period during which written comments on the draft permit may be submitted extends for 30 days from the date of this Notice. During the comment period, any interested person may request a Public Hearing by filing a written request which must state the issues to be raised. A public hearing will be held when EPA finds a significant degree of public interest.

EPA will notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. A final permit decision means a final decision to issue, deny, modify, revoke or reissue, or terminate a permit. Any person may request an Evidentiary Hearing on the agency's final permit decision. However, the request must be submitted within 30 days of the date of the final permit decision and be in accordance with the requirements of 40 CFR 124.74. Any condition(s) contested in a request for an evidentiary hearing on an Existing Source may be stayed if the request for a hearing is granted. If any condition(s) contested in a request for an evidentiary hearing are granted on a New Source, New Discharger, or Recommencing Discharger the applicant shall be without a permit.

Further information including the administrative record may be viewed at the above address between 8 a.m. and 4:30 p.m., Monday thru Friday.

NPDES authorization to discharge to waters of the United States, permit No. LA0003301.

The applicant's mailing address is:

Dow Chemical U.S.A.
P.O. Box 150
Plaquemine, Louisiana 70764

The discharge from this existing discharge is made into the Mississippi River and Bayou Bourbeaux, a water of the United States classified for secondary contact recreation, domestic raw water supply and propagation of fish and wildlife. The discharge is located on that water just north of Plaquemine, Louisiana at the border of the West Baton Rouge and Iberville Parishes. A fact sheet is available. Under the standard industrial classification (SIC) codes 2869 and 2819, the applicant's activities are operation of facilities to manufacture methyl cellulose, chlorine, caustic, high and low density polyethylene, chlorinated polyethylene, ethanolamines, dewanols, ethylene/propylene oxides and glycol, light olefins, BTX, chlorinated methanes, chlorinated solvents, ethylene dichloride/vinyl chloride and research facilities.

The changes from the previously issued permit are: effluent limitations and monitoring requirements which reflect application of BAT treatment of wastewater.

9. The following is an explanation of calculations or other necessary explanation of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under 40 CFR §122.44 and §122.45 and reasons why these are applicable:

The final discharge at outfall 001 is comprised of less than 20 MGD of process waste water in about 650 MGD non-contact cooling water and uncontaminated storm drainage. Application of Best Available Technology (BAT) limitations at the final outfall would incur analytical difficulties. Therefore, BAT limitations were moved upstream to the source of the pollutants.

The Dow sewage system, being conceived long before NPDES regulations, is not amenable to retrofitting stream segregations, although the intake system is totally segregated from the effluent canal. This layout requires effluent regulations at upstream sources prior to entering the effluent canal. The permit requirements regulate discreet internal outfalls and every effort was made to avoid an effluent limitation being applied to 2 or more sources, i.e., sum of outfall requirements were eliminated as practiced in the BPT permit.

The upstream sources were chosen by manufacturing areas. For example, the chloro-alkali II plant, chlorine plant and caustic plant are regulated by the Inorganic Chemical effluent guidelines for the Chlorine-caustic subcategory and this area is the 300 area. Since all discharges flow to outfall 001, the internal outfalls regulated are 301 (chloro-alkali II), 311 (chlorine plant), 321 (chlorine plant rectifier cooling water), 331 (caustic plant 50% caustic evaporator barometric condenser water), 341 (caustic plant 73% caustic evaporator barometric cooling water), 351 (caustic purification cooling water, and 361 (caustic plant non-contact cooling water). The guidelines were appropriately applied to internal outfalls 301 and 311.

Outfall 0001 - combined process, utility, cooling and stormwater drainage.

This is the entire combined outfall, treatable process outfalls and contaminated stormwater are treated and monitored prior to entering the return canal. Acidic and alkaline process streams are controlled to achieve pH neutralization at the final outfall. The continuously monitored stream must comply within the range of 6 to 9 pH a minimum of 99% pursuant to 40 CFR §401. Continuous monitoring of temperatures is asked for at this outfall. The pH instrument must be adjusted for temperature and an assessment of the thermal impact combine for this requirement.

Total residual chlorine is fairly ubiquitous at the Dow facility. Monitoring only is asked for to help identify fugitive sources and point out unintentional releases of chlorine.

Biomonitoring is asked for at the final outfall to assess the containment and stream segregation endeavors. BAT treatment at the various units should eliminate toxicity after such dilution. However, the possibility of priority and other toxicants entering the final outfall discharge is a remote but finite possibility.

In order to meet the goals of the Clean Water Act as enumerated in Section 101, the EPA may require under the authority of Section 308 that treated effluents be biomonitoring. The discharge of toxic priority pollutants from several internal outfalls have been established in the consolidated application or its potential has been demonstrated earlier in this document, and permit requirements have been established for toxic priority pollutants which represent the degree of effluent reduction attainable through the application of BAT (best available technology economically achievable). While Region 6 feels comfortable with the ability of its BAT permits to control the discharge of toxics, the monitoring of specific chemical parameters alone does not measure toxicity. The most direct and cost-effective approach to measuring effluent toxicity is to perform a static bioassay test of the treated effluent.

The permittee will utilize the screening test procedures and LC50 methodology set out in "Methods for Measuring the Acute Toxicity of Effluents to Aquatic Organisms," EPA-600/4-78-012. No presumption should be made should the permittee pursuant to conditions specified in the permit need to establish the LC50 of the treated effluent. The bioassay information will be used by the State and EPA in determining which receiving waters may have existing or potential use impairments. The effluent bioassay information by itself will not be used to derive permit limits nor used to show cause and effect relationships. Other data gathering such as fixed station monitoring, intensive surveys, fate and effect studies and/or chronic testing would be necessary to establish cause and effect relationships. All of this information together would then become a part of the continuing planning process used to direct attainability studies, site specific criteria modification studies, and water quality permitting requirements. The bioassay data will not be used in determining compliance with the permit limits. Compliance with the permit limits will rely on chemical testing.

Area 100 - Chlorinated polyethylene area.

The BPT conditions of this outfall is considered BCT except for the potential presence of total residual chlorine and a backup oxygen demand parameter. Therefore, TOD and TSS are continued and monitoring for COD and TRC is asked for. A limit for TRC was established at 2 mg/l daily maximum.

Area 200 - Once-through cooling water from methyl cellulose unit.

Reporting of flow and pH is asked for. The cooling water was described as non-contact in the application. Therefore, a limit of 5 mg/l net increase in TOD was established as a daily maximum limit for O201. The technology employed for this requirement is timely plant maintenance and proper cleanup and spill prevention procedures.

Area 300 Chlor-Alkali II and Chlorine Plant .

Effluent limitations and monitoring requirements were established at outfalls 0311 and 0321 for the Chlor-Alkali II and Chlorine plants for total suspended solids, total residual chlorine, copper, lead and nickel as set forth in the Inorganic Chemical effluent guidelines promulgated in 40 CFR Part 415.62(b) and 415.63(b).

The NPDES application reported treatable quantities of halogenated organics. The proposed organic chemical guidelines do not apply at this outfall since the technology is based upon activated sludge treatment. Chloro-alkali effluent is not amenable to this technology. However, physical/chemical treatment of steam/air stripping or activated carbon adsorption technology is available.

The inorganic chemical development document was utilized to derive equitable flow rates to apply BAT technology for control of halocarbons at 0311 and 0321. The 30-day average and daily maximum achievable levels were established based upon best professional judgment. The product of the flow and the achievable levels resulted in the proposed permit limitations in lbs/day total purgeable halocarbons. The daily maximum limit represents the 99% confidence level as applied to these discharges. The daily maximum limit at 0311 is calculated as an example:

$$0.387 \text{ MGD} \times 8.34 \text{ lbs/gal} \times 1.6 \text{ lbs}/10^6 \text{ lbs (ppm)} = 5.3 \text{ or } 6 \text{ lbs/day.}$$

This process discharge requires BAT abatement for several metals, halocarbons and total residual chlorine, a biomonitoring requirement is therefore asked at the point just prior to entering the Dow return canal based upon 24-hr composite sampling.

In order to meet the goals of the Clean Water Act as enumerated in Section 101, the EPA may require under the authority of Section 308 that treated effluents be biomonitored. The discharge of toxic priority pollutants from outfall 0301 or its potential has been demonstrated earlier in this document, and permit requirements have been established for toxic priority pollutants which represent the degree of effluent reduction attainable through the application of BAT (best available technology economically achievable). While Region 6 feels comfortable with the ability of its BAT permits to control the discharge of toxics, the monitoring of specific chemical parameters alone does not measure toxicity. The most direct and cost-effective approach to measuring effluent toxicity is to perform a static bioassay test of the treated effluent.

The permittee will utilize the screening test procedures and LC50 methodology set out in "Methods for Measuring the Acute Toxicity of Effluents to Aquatic Organisms," EPA-600/4-78-012. No presumption should be made should the permittee pursuant to conditions specified in the permit need to establish the LC50 of the treated effluent. The bioassay information will be used by the state and EPA in determining which receiving waters may have existing or potential use impairments. The effluent bioassay information by itself will not be used to derive permit limits nor used to show cause and effect relationships.

Other data gathering such as fixed station monitoring, intensive surveys, fate and effect studies and/or chronic testing would be necessary to establish cause and effect relationships. All of this information together would then become a part of the continuing planning process used to direct attainability studies, site specific criteria modification studies, and water quality permitting requirements. The bioassay data will not be used in determining compliance with the permit limits. Compliance with the permit limits will rely on chemical testing.

Utility and Once-through cooling water.

Outfalls 321, 331, 341, 351 and 361 are Once-through cooling water and storm runoff from the caustic plant, chlorine plant and adjacent to the chloro-alkali II plant.

Reporting of flow and pH is asked for in the draft proposed permit. The cooling water was described as either non-contact or barometric CW from the caustic evaporators. A daily maximum limit of 5 mg/l net increase of TOD was established to insure contamination is maintained at a minimum. The technology employed to meet this requirement is timely plant maintenance and proper spill prevention and cleanup procedures.

The above monitoring applies to each internal outfall prior to entering the final discharge canal.

Area 400 - Propylene oxide and intermediate area.

The process wastewater and contaminated storm drainage is sent to the Central Treatment Plant. This stream accounts for a large portion of the 7 MGD treated there and is regulated at internal outfall 2001.

The NPDES application indicated once-through cooling water is discharged here and no priority pollutants were identified in the 43 MGD discharged. In addition to reporting the flow and pH, a maximum limit of 5 mg/l Net TOD was established at internal outfalls 411 and 421. The technology employed for the net TOD requirement is timely plant maintenance and proper spill prevention and cleanup procedures.

Storm runoff at outfalls 431, 441 and 451 are limited to 200 mg/l TOD. Contaminated stormwater can be sent to CTP, otherwise it is allowable to send relatively low contaminated stormwater directly to the effluent canal.

The permittee reported the presence of 1,2-dichloropropane in the OTCW. The potential for this component to be in the rainwater also follows. A limit of 0.2 mg/l daily maximum was established at 0411, 0421, 0431, 0441 and 0451 based upon our best professional judgment. The daily maximum represents the 99 percent confidence level. Abatement must be provided to maintain an effluent long term average discharge of approximately 12 lbs/day to comply with the approximately 52 lbs/day limitation. This level of abatement was determined to represent containment in the area equivalent to BAT reductions.

Area - 500 -Chlorinated solvents plant area.

Dow produces various chlorinated solvents by the process of direct chlorination, thermal chlorination and dehydrochlorination to produce a wide variety of products and by-products.

The NPDES application shows the following outfalls and descriptions:

<u>Operation</u>	<u>Flow, MGD</u>	<u>Description</u>	<u>Outfall</u>
non-contact river water	30.35	discharged	501
contact river water	2.15	steam stripper/ thermal oxidizer	511
contact process water	0.38	pH neutralization	521
non-contact condensate	0.04	discharged	531

Process wastewater contaminated with purgeable halocarbons can be successfully treated by physical/chemical methods to virtually any degree of reduction. For example, data presented in the Proposed Development Document for Organic Chemical Guidelines, EPA 440/1-83/009-b, February, 1983, Vol. III, describe steam stripping of the organic volatile priority pollutants. The key component here 1,2-dichloroethane, based upon solubility, etc., can be steam stripped from its solubility limit (about 900 mg/l) to 0.05 mg/l utilizing 8 theoretical trays and 0.018 lbs steam per lbs feed. Using an aqueous influx only 6 theoretical trays are required.

Permitties 2C application reported numerous purgeable halocarbons and aromatics in the discharge. The aromatics are derived from by-product alkalinity which will be regulated at the source LHCII and III. The application of BAT technology derived by best engineering or professional judgment is authorized by 40 CFR Part 122.

The 2.53 MGD process wastewater may be steam stripped to 0.1 mg/l for each of the purgeable halocarbons detected in the 2C application and the daily average limitation calculated: $2.53 \times 8.34 \times 0.6 = 12.5$ lbs/day daily average, the once-through cooling water has been reduced to 15 MGD. DMR data from 1982 and 1983 supports this reduction. Containment efforts at the BAT technology level involves detection and correction. We have established this level at 0.05 mg/l in our best professional judgment. The purgeable halocarbons authorized from this source is calculated: $15 \times 8.34 \times .05 = 6.25$ lbs/day 30-day average.

The first three-quarters of an inch of rainfall is collected for treatment as process wastewater above. Excess stormwater and other rain runoff adjacent to the process was reported in the 2C application. The allowable contamination of purgeable halocarbons in this 1.5 MGD discharge is 1 mg/l and is based upon an evaluation of the effectiveness of spill prevention and containment, proper curbs, timely maintenance and overall good housekeeping. The proposed limit for this source is calculated: $1.5 \times 8.34 \times 1 = 12.5$ lbs/day 30-day average total purgeable halocarbons. The sum of the three sources is 32 lbs/day and the daily maximum derived based upon variability factors, empirical data, 99% confidence levels, etc. was established at 64 lbs/day. The analytical method proposed for compliance monitoring in the proposed permit is EPA Method 601 or 624.

Total residual chlorine abatement technology is available to reduce this pollutant to any degree by addition of excess reducing agent and allowing sufficient time for the reaction to approach completion. The technology established for this facility are source control, chemical reduction and other preventive measures or combinations. It is our best professional judgment that TRC can be controlled to within 1.0 mg/l daily maximum calculation: $(2.53 + 1.5) 8.34 \times 1 = 34$ lbs/day daily maximum.

Nickel was found in this outfall at treatable quantities. The long term achievable limit for nickel was reported in the Inorganic Chemical Development Document at 0.19 mg/l. Application of a variability factor of 3.15 yields the daily maximum limit. Calculation: $2.53 \times 8.34 \times .19 \times 3.15 = 12.6$ lbs/day daily max.

Biomonitoring was asked for reasons similar to outfall 003 area.

The cooling water streams, 0501 and 0531 are required to meet the net TOD limit of 5 mg/l in a rationale similar to the 003 area requirement.

Area 600 Vinyl I

The permittee produces EDC by direct and oxychlorination of ethylene. The EDC is thermally cracked to VCM as final product. Some VCM is chlorinated to 1,1,2-trichloroethane. The HCl by product is utilized in the oxychlorination reaction above.

The NPDES consolidated application shows the following streams and descriptions:

<u>Operation</u>	<u>Flow, MGD</u>	<u>Description</u>	<u>Outfall</u>
non-contact river water	59.6	discharged	611, 21, 31, & 41
non-contact condensate	0.25	scrubber water	681
contact process water	0.1	pH neutralized	661
treated contact process	0.03	steam stripper	651
treated stormwater	N/A	steam stripper	661
uncontaminated stormwater	N/A	discharged	671

The discharge monitoring reports for 1982 and 1983 indicate the average OTCW to be 52 MGD from area 600. The equipment is designed as non-contact or surface heat exchangers and theoretically should not be contaminated. However, exchangers develop leaks and other equipment failures result in contaminating the OTCW. The contamination must be detected and the problem corrected to maintain

low levels in the discharge. A consideration of the size and nature of the discharge along with the abatement options for control of purgeable halocarbons in this source was performed and an effluent limitation of 0.025 mg/l was established based upon BPJ. Such allowance for the daily average discharge can be calculated: $52 \times 8.34 \times .025 = 11$ lbs/day daily average total purgeable halocarbons (TPH).

PROPOSED PERMIT

Permit No. LA0003301
Application No. LA0003301

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"),

Dow Chemical U.S.A.
Louisiana Division
P.O. Box 150
Plaquemine, Louisiana 70764

is authorized to discharge from a facility located at Plaquemine, Louisiana

to receiving waters Mississippi River
Bayou Bourbeaux

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,

Signed this day of


Myron O. Knudson, P.E.
Director, Water Management Division (6W)

GOVERNMENT
EXHIBIT

9

PART I

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Permit No. LA0003301

PART I
REQUIREMENTS FOR NPDES PERMITS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS *Final* ~~Outfall~~ 001

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from Outfall(s) serial number(s) 001, combined process, utility and storm runoff from the Division Return canal system to the Mississippi River.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	kg/day(lbs/day)		Other Units (Specify)	
	Daily Avg	Daily Max	Daily Avg	Daily Max
Flow-m ³ /Day(MGD)	N/A	N/A	Report	Report
Temperature, °F	N/A	N/A	Report	Report
Total Residual Chlorine	Report	Report	N/A	N/A
Total Purgeable Halocarbons	Report	Report	N/A	N/A
Total Purgeable Aromatics	Report	Report	N/A	N/A
Phenols	Report	Report	N/A	N/A
Biomonitoring	N/A	N/A	N/A	N/A

<u>Effluent Characteristic</u>	<u>Monitoring Requirements</u>	
	Measurement Frequency	Sample Type
Flow-m ³ /Day(MGD)	Continuous	Record *
Temperature, °F	Continuous	Record
Total Residual Chlorine	1/Day	Grab
Total Purgeable Halocarbons	1/Month*	24-Hour Composite
Total Purgeable Aromatics	1/Month*	24-Hour Composite
Phenols	1/Month*	24-Hour Composite
Biomonitoring	(See Part III)	24-Hour Composite

*See Part III, 9.

** Calculated based upon number of pumps operating, their design capacity and pump running time.

PART I

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Permit No. LA0003301

PART I
REQUIREMENTS FOR NPDES PERMITS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - Outfall(s) Sum of 511 and 521.

During the period beginning effective date and lasting through expiration date the permittee is authorized to discharge from Outfall(s) serial number(s) sum of 511 and 521 - process wastewater from the manufacture of chlorinated solvents and Vinyl Icaros, ^{and utility and stormwater} Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	kg/day(lbs/day)	Other Units (Specify)	Daily Avg	Daily Max
Flow-m ³ /Day(MGD)	N/A	Report	Report	Report
Total Residual Chlorine **	7.7(17) <i>report</i>	15.4(34)	N/A 1 (avg 12)	N/A 2 (avg 12)
Total Nickel	2.8(6.3)	5.7(12.6)	N/A	N/A
Total Purgeable Halocarbons*	14.5(32)	29.0(64)	N/A	N/A
Biomonitoring	N/A	N/A	N/A	N/A
	23 (51)	46 (102)		

<u>Effluent Characteristic</u>	<u>Monitoring Requirements</u>	
	Measurement Frequency	Sample Type
Flow-m ³ /Day(MGD)	Continuous	Record
Total Residual Chlorine **	1/Day	24-Hour Composite
total Nickel	1/Week	24-Hour Composite
Total Purgeable Halocarbons	1/Day	24-Hour Composite
Biomonitoring	(See Part III)	24-Hour Composite

*EPA Method 601 or 624

**Outfall 511 contains purgeable halocarbons and total residual chlorine from Vinyl I, outfall 601. The above limits apply after the values from outfall 601 are subtracted from outfall 511.

chlorine vent scrubbers and
** Monitored at the incinerator discharge at the Solvents and Vinyl I area prior to combining with any other streams. See Part III.

FINAL COMMENTS BY:

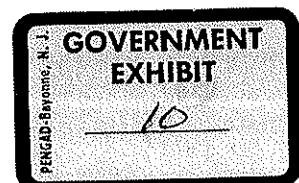
**The Dow Chemical Company
Louisiana Division**

TO

Draft Permit NPDES LA0003301

Dated August 23, 1984

**(Superseding Previously Submitted Partial
Draft Comment of June 25, 1984,
July 19, 1984 and August 9, 1984)**



COMMENTS AND REQUESTED CHANGES
TO DRAFT PERMIT LIMITATIONS AND
CONDITIONS CONCERNING THE
FINAL OUTFALL 001

COMMENT NO. 1, PAGE 2, PART I, SECTION A, DRAFT PERMIT

As one of the parameters to be measured, Flow - m^3/day (MGD) must be reported on a continuous basis. Continuous measurement is an unnecessary requirement and serves no useful environmental purpose over the flow measurement requirements at the final outfall in the existing permit. Moreover, to convert to continuous flow measurement would be exceptionally expensive given the consequent benefit to be derived.

Justification

Currently, the flow at Final Outfall 001 (formerly 021) is a calculated number based on the number of pumps operating, their design capacity, and pump running time. Since the Draft Permit places limitations on the flow and discharge of pollutants at a myriad of upstream points expressly in response to a perceived problem of analytical sensitivity at the final outfall, it makes no environmental sense to measure the flow more precisely at final outfall than it is currently being measured.

Even considering the requirement in Part III, Item 9, Page 126 of the draft permit of undertaking a remedial program if analysis at Final Outfall 001 indicates a 25% exceedance in TPH, TPA and phenol of the combined daily maximum requirements upstream, imposition of a more precise flow measurement at Outfall 001 is not warranted due to the unworkability of the 25% exceedance calculation as is discussed in detail in Dow's Comments to Parts II and III of the Draft Permit. Accordingly, we request the following changes.

Requested Changes to the Draft Permit

Change the flow measurement requirement for Outfall 001 from "continuous" to --- estimate ---.

REQUESTED MINOR CHANGES TO DRAFT PERMIT

1. Change the designation of "...outfall 001" to --- Final Outfall 001 --- so as to clearly differentiate this outfall from upstream internal outfalls which are not final discharge points from Dow's facility.

NPDES PERMIT COMMENTS
AND REQUESTED CHANGES
PART II AND PART III
PAGE 3

COMMENT NO. 5, PART II, PAGE 119, ITEM 8: RETENTION OF RECORDS

With respect to comments made by Dow on June 25, 1984, and comments made to EPA verbally in its meeting with EPA on July 9, 1984, Dow, as part of the requirement of Item 9, will continue to monitor pH in the manner and at the points it has and is doing currently, (see plant map "Continuous pH Monitoring", attached) as described in Dow's June 25, 1984 comments, and will retain such monitoring data in conformity with the requirements of Item 9.

COMMENT NO. 6, PART II, PAGE 120, SECTION D, ITEM 1: PLANNED CHANGES

This item is interpreted by the permittee as applying only to alterations and changes that:

- a. involve relocation of a permitted discharge point, and
- b. involve or result in a change in discharge quantity or quality, and
- c. require preconstruction permits or approvals.

COMMENT NO. 7, PART III, PAGE 125, OTHER CONDITIONS, ITEM 6 CONCERNING BIOMONITORING

NOTE: These comments are intended to supplement Dow's comments submitted to EPA on June 25, 1984. They relate to Internal Outfalls 311, 321, 511, 521, 601, 2001, and Final Outfall 001:

(Comment) Page 5, Fact Sheet, Page 125, Draft Permit

EPA, in its draft permit, has imposed a biomonitoring protocol, specified as EPA Method 600 (revised July, 1978) which is seriously inadequate, if not scientifically unworkable and which we understand EPA itself is currently revising. Use of EPA 600 (1978), unmodified, will yield useless and erroneous data.

Justification

EPA's Method 600/4-78-012 (revised July, 1978) and the biomonitoring requirements in the draft permit are seriously flawed, are inadequate and inappropriate for the following reasons:

1. EPA Method 600 has never gone through any formal, public validation procedure either inside or outside of EPA. Hence, it is a method upon which there is no public and private sector consensus. It is a method therefore which offers no assurance of usefulness and reproducibility of test results from laboratory to laboratory.

Moreover, to our knowledge, there has never been a so-called "round robin" test conducted using EPA-600 (1978) to insure that test results can be duplicated from laboratory to laboratory. Again, there is no assurance that reproducible data can be obtained using the method. There is no point in collecting data if that data can not be reproduced!

2. Imposition of EPA Method 600 (1978) is inappropriate because the method assumes that marine bioassays involve a freshwater effluent being discharged into a marine ecosystem. In many instances, Dow's effluent is brackish and invariably discharges into a freshwater ecosystem.

The following is taken from EPA 600/4-73-012 (Rev., 1978) "Methods for Measuring the Acute Toxicity of Effluents to Aquatic Organisms".

"The acclimation of marine organisms for effluent toxicity tests poses special problems because most effluents discharged into the marine environment consist of adulterated freshwater. Therefore, when the effluent is diluted with the receiving water (salt water), the higher percent effluent volumes will have a low salinity (the salinity will be inversely proportional to the percent volume of effluent). If the effluent is essentially freshwater, it is obvious that 100% effluent cannot be used with the marine test organisms. The highest effluent concentration (lowest salinity) tested will depend upon the salinity of the receiving water and the tolerance of the test organism. (Sheepshead minnows and mysid shrimp are known to be tolerant to a salinity range of 5-35 ppt, but the tolerance of other marine species in Table 1 must be established by the investigator). Under the circumstances described above, it will be necessary to acclimate marine organisms to a series of salinities, ranging from 5-35 ppt. It would also be advisable to culture the test organisms at a series of salinity levels, including at least 10, 20, and 30 ppt, so that changes in salinity upon acclimation do not exceed 6 ppt."

The method clearly assumes that the "marine bioassays" involve a fresh water effluent being discharged into a marine ecosystem. On the basis that "...toxicity tests should be conducted with a sensitive species that is indigenous to the receiving water", then the choice of mysid shrimp makes sense and is in accordance with the guide-lines but only when the receiving water is a saline or brackish system (i.e. the mysid are capable of being indigenous).

NPDES PERMIT COMMENTS
AND REQUESTED CHANGES
PART II AND PART III
PAGE 5

There are, moreover, numerous difficulties in the actual testing procedures for mysid shrimp when the effluent is saline and the receiving water is fresh. Principally, the "salt" that makes up the effluent salinity is quite different from the natural salinity found in marine ecosystems. It becomes obvious in running such tests that physicochemical stress factors can have a significant impact on the test results and can result in mortality indicating an untrue toxicity reading -- death occurs but is not related to toxicants in the effluent.

3. The toxicity data generated at upstream internal outfalls on "pure" process effluents have, at best, only a questionable relationship to the toxicity, if any, of the final effluent which is discharged to the receiving water, i.e. the Mississippi River at Final Outfall 001. The physical configuration of permittee's plant is the result of comingling the process stream to be bioassayed with many others as well as a large volume of once-through cooling water. Hence, the applicable process effluents are of necessity and in effect diluted several hundred times before reaching permittee's final Internal Outfall 001. Accordingly, the biomonitoring data generated using pure effluents cannot be translated to a receiving water toxicity effect, even if there were one. Note that there is no effect since at Final Outfall 001 biomonitoring of *Daphnia*, submitted by Dow June 25, 1984, shows no toxic or other effect.
4. The draft biomonitoring requirements at internal outfalls suggest that effluent toxicity measurements can be correlated to actual in-stream effects. We do not believe there are any published, peer-reviewed data to support this assumption.
5. Based on the following salinity analysis of Dow's process streams that will have to be bioassayed per the draft permit requirement, some are clearly brackish, while others are clearly not, with some being close to borderline representing in some instances a difficult choice as to what test specie to use:

Salinity Data*

<u>Process Area</u>	<u>Outfall</u>	<u>> 5 ppt</u>	<u>< 5 ppt</u>	<u>Borderline</u>
CA II	301	20 to 33		
Chlorine	311			3 to 5
Solvents	511		< 1	
	521			2 to 4
Vinyl I	601		< 1	
Environmental				
Operations	2001	65 to 75		
(Final Outfall)	001		2	

*Constitutes a summary of 33 data points for month of July, 1984.

If EPA's goal is to ascertain the toxicity of Dow's process and final effluents, it is logical that tests be conducted which correlate any effluent toxicity demonstrated using Daphnia with that demonstrated, if any, using mysid shrimp. If this is not done, the biomonitoring data is not usable for any purpose, much less for future permit limits.

It should also be realized and factored into application of EPA Method 600 (1978), and use of any resulting data by EPA, that the measure of salinity in Dow's internal outfalls reflects sodium chloride almost totally - essentially no other salts being present. Salinity in the ecosystem, however, reflects a mixture of numerous minerals and salts which may or may not be toxic to Daphnia or mysid shrimp. Hence, toxicity observed, for example, of mysid shrimp due to sodium chloride in the effluent may not be observed at an equivalent saline level in the ecosystem. The two saline toxicities or toxic effects are not the same.

6. Data is available that show that toxicity results vary according to the way in which an organism is reared and maintained. If organisms are fed what they eat in nature, the LC50 will be higher than when organisms are maintained on synthetic food. EPA Method 600 (1978) does not deal with this fact and therefore, is an inadequate and flawed protocol whose results will be questionable as to meaning and use.
7. There is no discussion in EPA Method 600 (1978) as to the expected variability on repeated tests. The method is, therefore, deficient and can be seriously questioned as a meaningful, useful, testing protocol.

8. Biomonitoring data as a measure of BAT resultant reductions in toxicity at other than the Final Outfall 001 is meaningless because "pure" process effluents do not directly discharge to receiving waters. As explained, it is unavoidably comingled with a very large volume of once-through cooling water as a result of permittee's plant layout.

BAT control and monitoring in general is being imposed in the permit upstream at internal outfalls so that the results of pollutant reductions will be achieved in fact at the Final Outfall 001 though the reductions can not be monitored there because of inadequate analytical sensitivity. Hence, the effect of BAT reductions on effluent toxicity should be measured only by biomonitoring at Final Outfall 001.

9. Biomonitoring, as we understand it from various EPA guidelines on the subject, is designed to be used primarily with respect to effluents that are complex mixtures of chemicals, particularly organics, in that the additive and synergetic toxic effects cannot be economically and adequately assessed on a chemical-by-chemical analysis approach.

Dow's process effluents are for the most part not complex in that they contain one or two organic pollutants - hence, imposition of BAT, - which EPA has done in this permit, should suffice to control toxicity and can easily be determined by chemical analysis of the individual process streams. On the other hand, Dow's final outfall effluent represents a diluted comingling of many treated and untreated process streams though in very small quantities.

Though the biomonitoring data which Dow has already submitted demonstrates that its final effluent is not bio-toxic, the final outfall is, nevertheless, the place to impose biomonitoring according to the EPA's own guidelines.

10. EPA's biomonitoring policy suggests two instances where biomonitoring is appropriate with respect to water quality: (1) "...where the potential for non-attainment of water quality standards exist..." and (2) "...where water quality problems are suspected but complying with BAT may mitigate the impacts..." The biomonitoring data which Dow submitted on June 25, 1984 shows that the imposition of biomonitoring at any point within Dow's facility, is not justified with respect to the above two criterion. Moreover, we are not aware of any water quality non-attainment problems in the receiving water to which Dow discharges.

11. Plant design must be considered by EPA in formulating a biomonitoring program that is appropriate for Dow's Louisiana facility. The plant was designed to use from about 575 to about 650 MGD of once-through (non-contact) cooling water from the Mississippi River and ultimate return of it to the river through a network of return canals to a final plant outfall (001). The design was not for the purpose of diluting process streams but rather for the purpose of cooling. Biomonitoring imposed inside the plant avoids this fact in that it is not the pure process effluents which are discharged to the river but rather a final plant effluent of which about 95% (volume) is once-through cooling water. Hence, the appropriate place to conduct biomonitoring is at that final plant outfall.
12. The document, "Methods for Measuring the Acute Toxicity of Effluents to Aquatic Organisms," EPA-600/4-78-012 is a general outline of acute toxicity testing methods and does not give detailed methods or even referenced procedures for permittees to follow. Methods presented for monitoring should have been standardized and validated by round robin testing. The current best available procedures are not given for permittees to follow. Since procedures are general, there's a lack of uniformity in the test procedures. Examples of serious deficiencies are as follows:

Section 1 - Facilities and Equipment

Cleaning (p. 6)

Test chamber cleaning description is inadequate. Detergent use may be toxic to organisms. Our experience shows washing with 6 N HCl, rinsing with water and heating in a 600°C oven for one hour will reduce cross-contamination in reusing test vessels.

Section 3 - Test Organisms

No culturing details are given for test organisms, nor is this referenced.

Table 1 (p. 8, 9)

Culturing temperatures are not given. Testing with invertebrates within 5°C of the temperature at which they are cultured may stress and kill the organisms.

*main
DAICTEZ*

Permit No. LA0003301

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Clean Water Act, as amended,
(33 U.S.C... 1251 et. seq; the "Act"),

Dow Chemical U.S.A.
Louisiana Division
P.O. Box 150
Plaquemine, Louisiana 70765-0150

is authorized to discharge from a facility located at Plaquemine, Louisiana

to receiving waters named Mississippi River
Bayou Bourbeaux

in accordance with effluent limitations, monitoring requirements and
other conditions set forth in Parts I (110 pages), II (14 pages), and
III (6 pages) hereof.

This permit shall become effective on June 18, 1988 *070188*

This permit and the authorization to discharge shall expire at midnight,
May 3, 1992.

Signed and issued this 17th day of June 1988

Myron O. Knudson
Myron O. Knudson, P.E.
Director
Water Management Division (6W)

*This permit was
modified
orig. date
5-4-87 - 5-3-92*

*Big monitoring has
been completed.*



Permit No. LA0003301

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**PART I
REQUIREMENTS FOR NPDES PERMITS**

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

FINAL OUTFALL 001

During the period beginning the effective date and lasting through the expiration date, the permittee is authorized to discharge from Outfall 001 - combined process, utility and storm runoff from the Division Return canal system to the Mississippi River.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	<u>Mass (lbs/day)</u>		<u>Other Units (Specify)</u>	
	<u>Daily Avg</u>	<u>Daily Max</u>	<u>Daily Avg</u>	<u>Daily Max</u>
Flow (MGD)	N/A	N/A	Report	Report
Temperature, °F	N/A	N/A	Report	Report
Total Residual Chlorine	Report	Report	N/A	N/A
Total Purgeable Halocarbons	Report	Report	N/A	N/A
Total Purgeable Aromatics	Report	Report	N/A	N/A
Total Phenols	Report	Report	N/A	N/A
Biomonitoring	N/A	N/A	N/A	N/A

<u>Effluent Characteristic</u>	<u>Monitoring Requirements</u>	
	<u>Measurement</u>	<u>Sample</u>
	<u>Frequency</u>	<u>Type</u>
Flow (MGD)	Daily	**
Temperature, °F	Continuous	Record
Total Residual Chlorine	1/Day	Grab
Total Purgeable Halocarbons	1/Month*	24-Hour Composite
Total Purgeable Aromatics	1/Month*	24-Hour Composite
Total Phenols	1/Month*	24-Hour Composite
Biomonitoring	(See Part III)	24-Hour Composite

* See Part III.9.

** Calculated based upon number of pumps operating, their design capacity and pump total running time.

Permit No. LA0003301

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PART I
REQUIREMENTS FOR NPDES PERMITS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

INTERNAL OUTFALL 311

During the period beginning the effective date and lasting through the expiration date, the permittee is authorized to discharge from Outfall 311 - Chlor-alkali II plant process discharge.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	Mass(lbs/day)		Other Units (Specify)	
	Daily Avg	Daily Max	Daily Avg	Daily Max
Flow (MGD)	N/A	N/A	Report	Report
Total Suspended Solids (TSS)	1122	2420	N/A	N/A
Total Residual Chlorine	17.4	28.6	N/A	N/A
Total Copper	10.8	26.4	N/A	N/A
Total Lead	5.3	13.0	N/A	N/A
Total Nickel	8.1	21.3	N/A	N/A
Total Purgeable Halocarbons*	3	6	N/A	N/A
Biomonitoring	N/A	N/A	N/A	N/A

<u>Effluent Characteristic</u>	<u>Monitoring Requirements</u>	
	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow (MGD)	Continuous	Record
Total Suspended Solids (TSS)	1/Day	24-Hour Composite
Total Residual Chlorine	1/Day	Grab
Total Copper	1/Week	24-Hour Composite
Total Lead	1/Week	24-Hour Composite
Total Nickel	1/Week	24-Hour Composite
Total Purgeable Halocarbons*	1/Week	24-Hour Composite
Biomonitoring	(See Part III)	24-Hour Composite

* EPA Method 601 or 624.

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PART I
REQUIREMENTS FOR NPDES PERMITS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**INTERNAL OUTFALL 321**

During the period beginning the effective date and lasting through the expiration date, the permittee is authorized to discharge from Outfall 321 - Chlorine plant.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	<u>Mass (lbs/day)</u>		<u>Other Units (Specify)</u>	
	<u>Daily Avg</u>	<u>Daily Max</u>	<u>Daily Avg</u>	<u>Daily Max</u>
Flow (MGD)	N/A	N/A	Report	Report
Total Suspended Solids (TSS)	2601	5610	N/A	N/A
Total Residual Chlorine	40.3	66.3	N/A	N/A
Total Copper	25	61.2	N/A	N/A
Total Lead	12.2	30.1	N/A	N/A
Total Nickel	18.9	49.5	N/A	N/A
Total Purgeable Halocarbons*	6.5	13	N/A	N/A
Biomonitoring	N/A	N/A	N/A	N/A

<u>Effluent Characteristic</u>	<u>Monitoring Requirements</u>	
	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow (MGD)	Continuous	Record
Total Suspended Solids (TSS)	1/Day	24-Hour Composite
Total Residual Chlorine	1/Day	Grab
Total Copper	1/Week	24-Hour Composite
Total Lead	1/Week	24-Hour Composite
Total Nickel	1/Week	24-Hour Composite
Total Purgeable Halocarbons*	1/Week	24-Hour Composite
Biomonitoring	(See Part III)	24-Hour Composite

* EPA Method 601 or 624.

** Refrigeration of TSS sample is not required.

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PART I
REQUIREMENTS FOR NPDES PERMITS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**INTERNAL OUTFALLS SUM OF 511 and 521**

During the period beginning the effective date and lasting through the expiration date, the permittee is authorized to discharge from Outfalls sum of 511 and 521 - process and utility wastewater and storm water from the manufacture of chlorinated solvents and EDC I areas.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	<u>Mass (lbs/day)</u>		<u>Other Units (Specify)</u>	
	<u>Daily Avg</u>	<u>Daily Max</u>	<u>Daily Avg</u>	<u>Daily Max</u>
Flow (MGD)	N/A	N/A	Report	Report
Total Residual Chlorine	1677	2572	N/A	N/A
Total Purgeable Halocarbons*	51	102	N/A	N/A
Biomonitoring	N/A	N/A	N/A	N/A

<u>Effluent Characteristic</u>	<u>Monitoring Requirements</u>	
	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow (MGD)	Continuous	Record
Total Residual Chlorine	1/Week**	Grab
Total Purgeable Halocarbons	1/Day	24-Hour Composite
Biomonitoring	(See Part III)	24-Hour Composite

* EPA Method 601 or 624.

** The monitoring frequency will change to 1/Day for each TRC exceedance until five (5) consecutive days are in compliance.

Permit No. LA0003301

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PART I
 REQUIREMENTS FOR NPDES PERMITS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

INTERNAL OUTFALL 2001

During the period beginning the effective date and lasting through the expiration date, the permittee is authorized to discharge from Outfall 2001 - Environmental operations treatment plant.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	<u>Mass(lbs/day)</u>		<u>Other Units (Specify)</u>	
	<u>Daily Avg</u>	<u>Daily Max</u>	<u>Daily Avg</u>	<u>Daily Max</u>
Flow (MGD)	N/A	N/A	Report	Report
Biochemical Oxygen Demand (BOD ₅)	3770	10200	N/A	N/A
Total Oxygen Demand	26500	35850	N/A	N/A
Total Suspended Solids (TSS)	6000	12000	N/A	N/A
Total Purgeable Halocarbons(*1)	Report	Report	Report	0.25(mg/l)
Total Purgeable Aromatics(*2)	Report	15	Report	N/A
1,2-Dichloropropane	Report	Report	N/A	N/A
Bis(2-Chloroisopropyl)-ether	Report	Report	N/A	N/A
phenol(*3)	1.7	2.9	N/A	N/A
Acenaphthalene(*3)	2.4	6.5	N/A	N/A
Fluorene(*3)	2.4	6.5	N/A	N/A
Naphthalene(*3)	2.4	6.5	N/A	N/A
Biomonitoring	N/A	N/A	N/A	N/A



DOW CHEMICAL U.S.A.

Louisiana Division

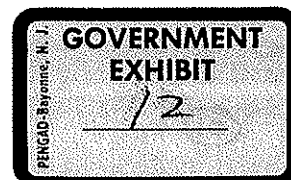
**NPDES
PERMIT APPLICATION**

October, 1991

EPA IDENTIFICATION

LA0003301

Volume 2



CPLD NUMBER (copy from Item 1, Form 1)
LA0003301/LWDPS WP 1561

U.S. ENVIRONMENTAL PROTECTION AGENCY
D-18 No. 2030-003
Approval expires 12/31/20

FCI: 2C
NPDES



U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	DEG.	MIN.	SEC.	DEG.	MIN.	SEC.	
SUM OF 511/521	30	19	0	91	14	0	Mississippi River
511	30	19	0	91	14	0	Mississippi River
521	30	19	0	91	14	0	Mississippi River

INTERNAL OUTFALLS

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in item B. Construct a water balance on the line drawing by showing flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures. See Attachment 2C-1

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary. See Attachment 2C-2 for Wastewater Treatment Description

I. OUTFALL NUMBER	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	A. OPERATION (name)	B. AVERAGE FLOW (include units)	C. DESCRIPTION	D. LIST CODES PER TABLE 2C.1	
511	Septic Tank	.0002 MGD	Discharge to Surface Water	4	A
	Washing Machine Water	* .0006 MGD	Discharge to Surface Water	4	A
	Block 49 Ground Water	* .009 MGD	Steam Stripped	1	D
	Remediation/Recovery		Discharge to Surface Water	4	A
	Chlorine Plant Storm	.031 MGD	Discharge to Surface Water	4	A
	Water Run-Off				
	Plant Washdown	* .036	Steam Stripped	1	D
			Discharge to Surface Water	4	A
	Maintenance Stream	.036 MGD	Discharge to Surface Water	4	A
	Process Area Storm Water	* .107 MGD	Steam Stripped	1	D
			Discharge to Surface Water	4	A
	Once Through Cooling	.216 MGD	Discharge to Surface Water	4	A
	Clarified River Water				
	Non Process Area Storm	.325 MGD	Discharge to Surface Water	4	A
	Water Run-Off				
	HCL Scrubber Effluent	* .2722 MGD	Neutralization	2	K
			Discharge to Surface Water	4	A
	Once Through Cooling	14.848 MGD	Discharge to Surface Water	4	A
	River Water				
	Total Flow	18.331 MGD			
	*OCPSF Waste Water				

OFFICIAL USE ONLY (effluent guidelines sub categories)

SOLVENTS/EDC
NPDES LA0003301/LWDPS WP 1561
FORM 2C ITEM VII
1991
ATTACHMENT 2C-4
PAGE 1 OF 1

BIOLOGICAL TOXICITY TESTING DATA

Quarterly acute biomonitoring was done for a 2 year period on internal outfall sum of 311/521 in accordance with Part III (item 6 and 12) of our NPDES Permit No. LA 0003301 and Part III.10 of State Permit WP 1561. Internal outfall sum of 311/521 is discharged to the Louisiana Division canal. Organism used for the testing was Daphnia sp. Results for the acute biomonitoring were reported on a quarterly basis from 1987 until early 1989.

Quarterly acute biomonitoring was done for a 2 year period on final outfall 001 in accordance with Part III.6 of our NPDES Permit No. LA 0003301 and Part III.10 of State Permit WP 1561. The receiving stream for final outfall 001 is the Mississippi River. Organism used for the testing was Daphnia sp. Results for the acute biomonitoring were reported on a quarterly basis from 1987 until early 1989.

Chronic testing was done on final outfall 001 in January and February 1990. The receiving stream for final outfall 001 is the Mississippi River. Organisms used were Ceriodaphnia dubia and Pimephales promelas. Results have been reported to the state.



Fw: 11/10/09 Call follow up
Ryan Rosser to: Evan Pearson

03/29/2011 08:40 AM

Ryan Rosser
Air Enforcement Officer
Air Enforcement Branch (6EN-AT)
US Environmental Protection Agency, Region 6
Dallas, Texas
Phone: (214) 665-2247

This email may contain material that is confidential, privileged and/or attorney work product and is for the sole use of the intended recipient. Any review, reliance or distribution by others or forwarding without express permission is strictly prohibited. If you are not the intended recipient, please contact the sender and delete all copies.

----- Forwarded by Ryan Rosser/R6/USEPA/US on 03/29/2011 08:39 AM -----

From: "Perry, Lisa (LD)" <LDPerry@dow.com>
To: Ryan Rosser/R6/USEPA/US@EPA, Rebekah Reynolds/R6/USEPA/US@EPA
Cc: "Minadeo, Joseph (J)" <JMinadeo@dow.com>, "Baldridge, Christine (CE)" <CEBaldridge@dow.com>
Date: 11/13/2009 01:12 PM
Subject: FW: 11/10/09 Call follow up

1. Whether there are controls that can stop the flow of waste water between any of the following ditches:

- Lined Ditch 1
- Lined Ditch 2
- East Solvents Ditch
- Return Canal

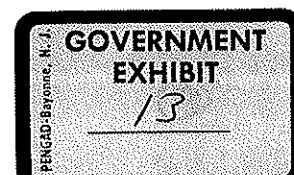
If controls exist, describe the controls. Also describe whether the controls have been used in the past three years, the frequency of use of controls, the reason the controls were used in each instance, and the duration of the use of the controls in each instance.

The water flows by gravity and there is no means of stopping the flow between the above points.

2. Provide construction diagrams and schematics for lined ditch 1, lined ditch 2, the East Solvents Ditch, and the Return Canal.

Construction drawings of the "Lined Ditches", along with a sketch of the system are included as attachments. Drawings for the East Solvents Ditch are not available at this time. Canal drawings were submitted in a previous submittal dated June 26, 2008.

For clarification, "Lined Ditches 1" and "Lined Ditch 2" are not actually ditches, but high density polyethylene (HDPE) boxes set in the ground. They are connected by underground HDPE pipe. Lined Ditch #1 flows underground via concrete culvert through the NPDES Outfall 521 sample point to the East Solvents Ditch, which drains into the Site Return Canal. PH is monitored in both Lined Ditch 1 and 2, but is primarily controlled in



"Lined Ditch 1". "Lined Ditch 2" also has the capability for pH control if needed.

3. Confirm whether 100% of the flow in Lined Ditch 1, Lined Ditch 2, and the East Solvents Ditch originates from the D-700 Quench, the HCL Absorber, and the CL2 Scrubber.

100% of the water flowing into Lined Ditch 1 originates from the D-700 Quench, HCL Absorber, and CL2 Scrubber. "Lined Ditch 2" also receives additional waters (Non-process area stormwater, once through cooling water, & acid tank vent scrubber water). There is no additional source of water downstream of "Lined Ditch 2" before emptying into the Site Canal .

4. Clarify whether the F024 listed waste is burned in the F-700 incinerator. If F024 is burned, describe the flow of the F024 from the point of generation through the F-700 incinerator to Lined Ditch 1.

F024 listed waste is not burned in the F-700 incinerator. The waste streams are classified as either K016 or K019.

5. Summarize Dow's interpretation of the application of the industrial point source discharge exclusion in section 1004(27) of RCRA and 40 C.F.R. § 261.4(a)(2) to Dow's disposal of listed and characteristic hazardous waste from the EDC/Solvents Plant to Lined Ditch 1.

Dow would respectfully request additional time to provide a written response to this question. It was not possible to coordinate schedules among those who will provide input and review. Additionally, it is believed that this question has been asked and answered on at least one prior occasion and we are seeking to obtain the previously drafted memorandum on the issue. We will supply a response within the next 2 weeks, if that is acceptable to EPA, and look forward to a subsequent discussion to address any remaining questions. Please confirm your acceptance of this request.

Regards,

Lisa Perry

EH&S Leveraged RCRA Specialist

The Dow Chemical Company - Plaquemine, LA

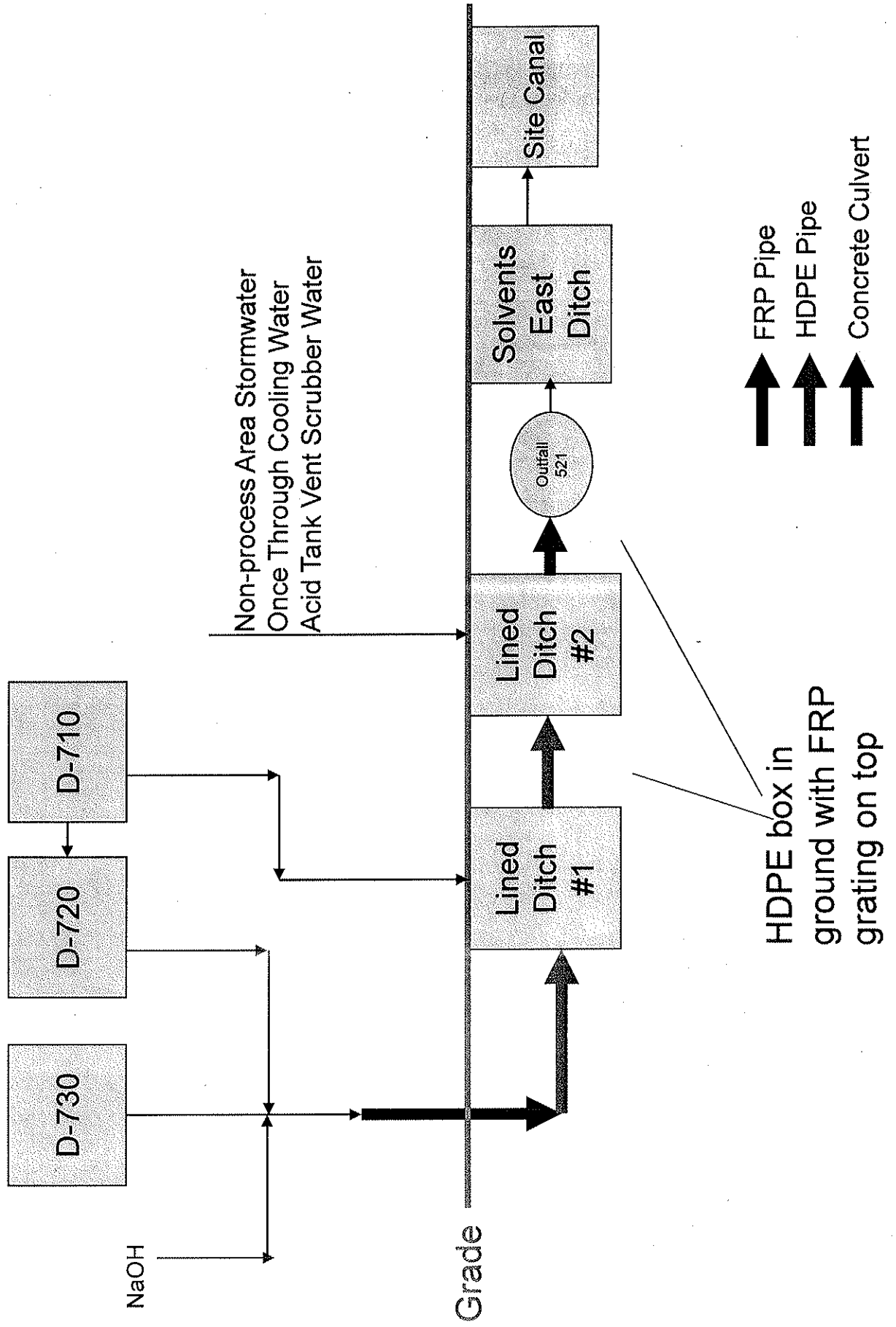
Bldg. 3502

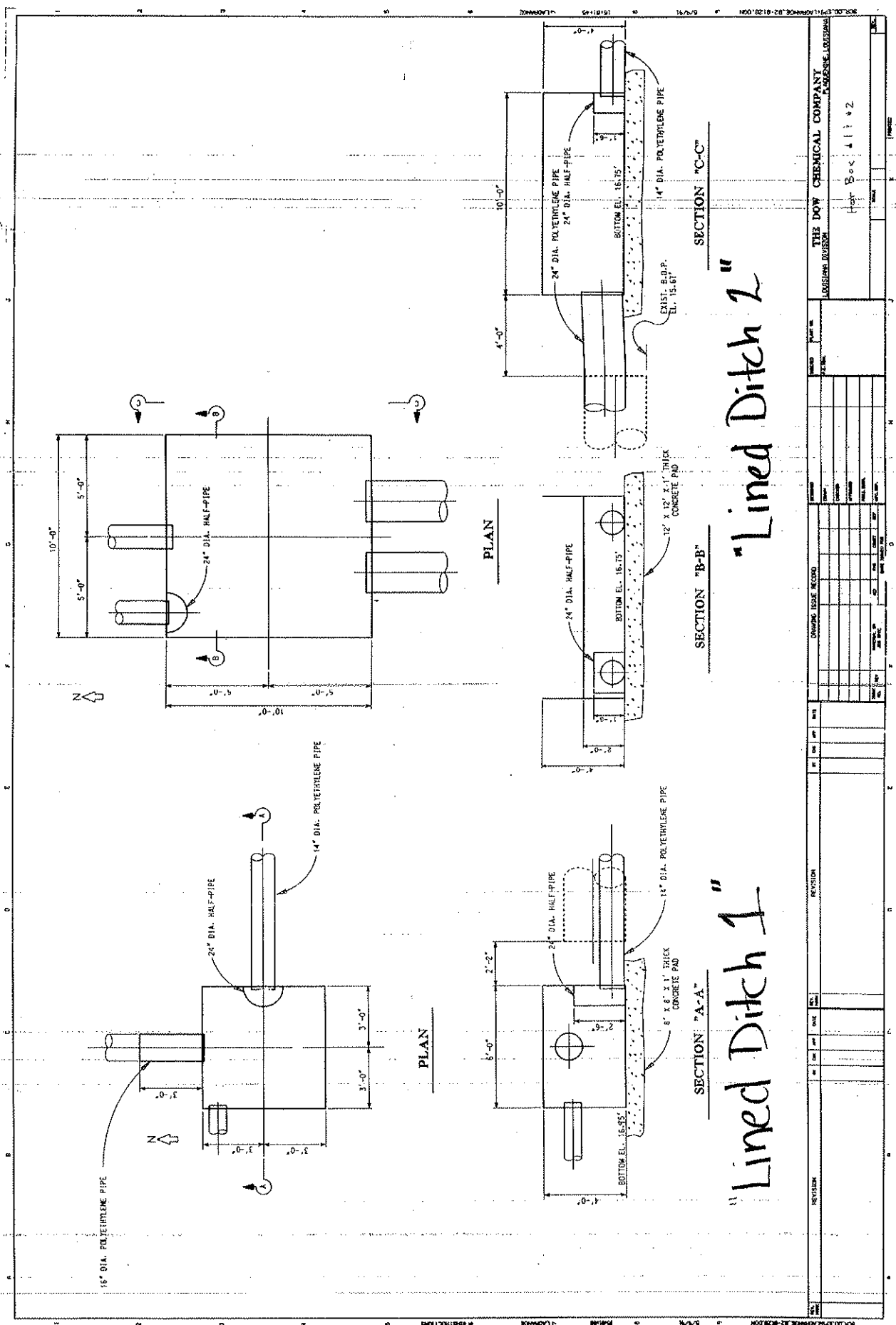
(225) 353-4316

ldperry@dow.com



Solvents Drain System.ppt MYSCAN_20091113_0001.TIF





"Lined Ditch 2"

"Lined Ditch 1"

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MAIN FILE

The Dow Chemical Company
P.O. Box 150
Plaquemine, Louisiana 70765-0150

May 23, 2006

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

original to IOW
sm
copy to Ind/G1/Guilliams
AVG

Dr. Chuck Brown
Office of Environmental Services
Louisiana Department of Environmental Quality
P.O. Box 4313
Baton Rouge, LA 70821-4313

6 MAY 24 P2:44

LDEQ RECEIPT

Re: Plaquemine Facility, AI # 1409 ✓ *PER 20060028*
NPDES Permit Renewal Application, Permit # LA0003301
THE DOW CHEMICAL COMPANY

Att: Bruce Fielding

Dear Mr. Brown:

The Dow Chemical Company operates the Louisiana Operations chemical manufacturing facility in Plaquemine, Louisiana and discharges to the Mississippi River under NPDES permit number LA0003301. As required 180 days prior to the expiration of the site water discharge permit, the permit renewal application has been prepared for the Plaquemine Facility. Please find enclosed three copies of the NPDES permit renewal application.

If you have any questions, please call Ed Keough at (985) 783-4107. Please send all written correspondence directly to me.

Sincerely,

Dennis Davis
Responsible Care Leader

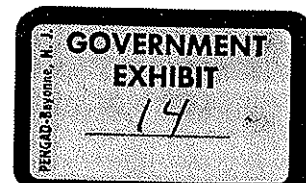
DMD/EBK/LB

Attachments

RECEIVED

MAY 24 2006

LDEQ



1.4 Water Usage

The Plaquemine site uses water from the Mississippi River and water wells for various purposes including once-through cooling, various production unit uses, and potable water. River water is brought into the site via six large intake pumps located on Marine Dock 1. Canals are used to distribute the water throughout the site. Water is carried out of the site via return canals and is pumped back into the river via six return pumps.

A portion of the river water is treated and used within the Plaquemine site operating units. This treatment is discussed below:

- Process water is made by clarifying river water to remove the majority of the particulates. Process water is used on the site for fire protection, cooling purposes, direct process contact, and cooling tower makeup. Groundwater supply wells are used to supplement process water in the event of clarifier outage or fire demand.
- Demineralized water is produced by passing process water through a series of ion exchange resins after further filtering it through pressure filters. Condensate, returned to the system from plants that condense steam, is combined with the demineralized water and fed to the site's power generation and demineralized water customers.
- Potable water is produced via further treatment of process water to remove particulates, some organics, and bacteria via disinfection.

In this permit application, utility wastewater may include hydrostatic test water, hydroblast water, deluge test water, fire hydrant test water, condensate, utility discharge from turnaround activities, deionized (DI) water, air conditioner condensate, cooling tower blowdowns, regeneration streams, water treatment discharges, steam traps, and clean equipment/slab washdown.

1.5 Wastewater Treatment

Production area process wastewaters, laboratory wastewaters, and sanitary wastewaters are treated in local treatment units or pumped, either from process sumps or directly from process equipment, to the central WWTP through a system of headers for discharge through internal Outfall 2001. Other internal outfalls discharge process and utility wastewater directly to the canals after analysis or local treatment. Neutralization is provided throughout the return canal system before discharge through Outfall 001. Section 2 of this document discusses the treatment equipment at each outfall.

Three process wastewaters are generated onsite:

- OCPSF process wastewater,
- Inorganic process wastewater, and
- Non-categorical process water.

1.5.1 Wastewater Treatment Plant Operations

The Plaquemine central WWTP is composed of two reactor systems. Both systems are biological reactor systems that remove organics from plant waste streams.

TABLE 2-2
Outfall Treatment
Plaquemine Site LPDES Permit Application

Outfall	Treatment
Outfall 001	Neutralization through the canal system.
Internal Outfall 101	Flocculation and clarification.
Internal Outfall 301	Neutralization
Internal Outfall 521	Non-categorical process wastewater is neutralized; and chlorine scrubber effluent is dechlorinated and neutralized prior to commingling with other wastewater.
Internal Outfall 531	Recovered groundwater, OCPSF process wastewater, and OCPSF process area storm water is steam stripped as needed before commingling with other wastewater streams. A portion of the OCPSF process wastewater is neutralized before commingling with other wastewater streams.
Internal Outfall 741	Sump collection system, over/under weir.
Internal Outfall 911	Over/under weir and oil removal.
Internal Outfall 931	Over/under weir and oil removal.
Internal Outfall 1081	Over/under weirs and oil skimmers.
Internal Outfall 1521	A portion of the discharge is treated in an air stripper as needed.
Internal Outfall 1531	Steam stripper
Internal Outfall 1561	Neutralization
Internal Outfall 1711	A portion of the OCPSF process wastewater and non-OCPSF wastewater is neutralized as needed prior to discharge. The remaining portion of the process area stormwater and OCPSF process wastewater is treated in a steam stripper as needed, or neutralized prior to discharge.
Internal Outfall 2001	Central WWTP - equalization, biological aeration, clarification, pH adjustment, sludge dewatering.
Internal Outfall 2241	Containment basin system.
Internal Outfall 2401	Over/under weir and pellet traps.
Internal Outfall 2501	Over/under weir and pellet traps.
Internal Outfall 3001	Carbon absorption.
Internal Outfall 3121	Over/under weir and pellet traps.
Internal Outfall 112	Part of canal treatment system (neutralization)
Internal Outfall 114	Part of canal treatment system (neutralization)
Internal Outfall 115	Part of canal treatment system (neutralization)
Internal Outfall 116	Part of canal treatment system (neutralization)
Internal Outfall 117	Part of canal treatment system (neutralization)
Outfall 002	Containment basin system and over/under weir

NPDES PERMIT NO. LA0003301

FACT SHEET

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT: The DOW Chemical Company
Louisiana Operations
Louisiana Highway 1
Post Office Box 150
Plaquemine, Louisiana 70765

ISSUING OFFICE: U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

PREPARED BY: Brian W. Mueller
Environmental Engineer
NPDES Permits Branch (6WQ-P)
Water Quality Protection Division
VOICE: 214-665-7167
FAX: 214-665-2191

PERMIT ACTION: Proposed reissuance of the current permit issued June 17, 1988 with an effective date of June 19, 1988 and an expiration date of May 3, 1992.

DATE PREPARED: February 1, 2000

PAGES: 35 (TEXT)
113 (APPENDICES)
Appendix A Outfall 001 (Final) pp 2
Appendix B Outfall 101 (Internal) pp 32
Appendix B-1 Outfall 101 (FDF Variance) pp 36
Appendix C Outfall 301 (Internal) pp 39
Appendix D Outfall 451 (Internal) pp 42
Appendix E Outfall 521 (Internal) pp 47



The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other necessary explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under 40CFR122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

FINAL OUTFALL DISCHARGE TO MISSISSIPPI RIVER

Outfall 001

- A. Location - Discharge from the Return Canal System.
- B. Treatment - none.
- C. Flow - 550 MGD.
- D. Type of wastewater - combined discharge of process, maintenance and utility wastewater, stormwater, groundwater remediation water, water from fire-water well testing, hydrotest water and once-through noncontact cooling water. The vast majority of this discharge is once-through noncontact cooling water.
- E. Receiving water - Mississippi River.
- F. Basin and segment - Mississippi River Basin, Segment 070301.
- G. Permit Limitations and Requirements - The limitations for Outfall 001 were determined by screening the effluent data against calculated water quality criteria and by screening the summation of the technology limitations of the internal outfalls against water quality criteria. The final permit establishes acute biomonitoring requirements at Outfall 001. Human health screening was performed on the reported effluent data. Appendix A contains the results of the screens and supporting documentation.

Chlorinated Polyethylene

Internal Outfall 101

- A. Location - Discharge from the southwest corner of the Chlorinated Polyethylene Plant in Block 19.
- B. Treatment - Flocculation, sedimentation, centrifugation (dechlorination only on scrubber effluent).



AI 1409
LA 0003301
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2739

original to *BC-3*

ai copy to *PER/23/chu*

LDEQ-OES

01 OCT 17 P1:55

PERMITS DIVISION

OCT 18 2001

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (7000 0520 0022 2564 2032)

Mr. Earl Shipp
Site Leader
The Dow Chemical Company
Louisiana Operations
P.O. Box 150
Plaquemine, LA 70765-0150

Re: NPDES Permit No. LA0003301
Public Notice of Final Permit Decision

Dear Mr. Shipp:

Enclosed are the following: the public notice of the Agency's final permit decision, a copy of our response to comments, and the final permit. This public notice describes any substantial changes from the draft permit.

Should you have any questions regarding the final permit, please feel free to contact Brian W. Mueller of the NPDES Permits Branch at the above address or VOICE: 214-665-7167, FAX: 214-665-2191, or EMAIL: mueller.brian@epa.gov. Should you have any questions regarding compliance with the conditions of this permit, please contact the Water Enforcement Branch at the above address or VOICE: 214-665-6468.

Sincerely yours,

Gregg A. Cooke
Gregg A. Cooke
Regional Administrator

✓ Enclosures

cc (w/enclosures): Louisiana Department of Environmental Quality

Internet Address (URL) = <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 25% Postconsumer)

GOVERNMENT
EXHIBIT
16

**AUTHORIZATION TO DISCHARGE TO WATERS OF THE UNITED STATES,
NPDES PERMIT NO. LA0003301.**

The applicant's mailing address is:

**Dow U.S.A.
The Dow Chemical Company
P.O. Box 150
Plaquemine, LA 70765-0150**

The discharge(s) from this existing discharger are to receiving water(s) named Mississippi River in Segment No. 070301 of the Mississippi River Basin. The known uses of the receiving water are:

MISSISSIPPI RIVER (WATERBODY SEGMENT CODE NO. 070301)

**Primary Contact Recreation
Secondary Contact Recreation
Fish and Wildlife Propagation
Public Water Supply**

Segment 070301 of the Mississippi River is listed on the modified court ordered 303(d) list of impaired waterbodies. The suspected causes for impairment are mercury, pesticides, phosphorus, nitrogen, and pathogen indicators. The Mississippi River is set for TMDL completion in 2007. The effluent data provided by the permittee indicates that the facility does not cause or contribute to the impairment of Segment 070301, additionally effluent limitations and other controls in the permit will prevent the discharge from contributing to the impairment.

The facility is located on Louisiana Highway 1 in Plaquemine, Louisiana in both Iberville and West Baton Rouge Parishes. Under the Standard Industrial Classification (SIC) Code(s) 2869 & 2819, the applicant currently manufactures organic and inorganic chemicals.

The final permit has been revised to reflect the December 12, 2000, Conditions of Certification by the Louisiana Department of Environmental Quality and the comments Letter Bello (Dow) to Mueller (EPA) dated July 24, 2000, and updated application data received from Dow Chemical dated November 28, 2000. A copy of EPA's Response to Comments will be made available upon request.

Under 40 CFR 124.19, any person who filed comments on the draft permit proposed in connection with this matter may, within 30 days after issuance of this final permit decision, petition the Environmental Appeals Board to review any condition of this permit decision, including the decision by the Regional Administrator to grant the permittee's request for a variance based on the existence of "fundamentally different factors: from those on which the effluent limitation guideline was based (see 40 CFR 124.64(b)). Any person who failed to file comments on the draft permit may petition for administrative review only to the extent of the

RESPONSE TO COMMENTS APPENDIX

PAGE 2

PART I - REQUIREMENTS FOR NPDES PERMITSA. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOUTFALL 001(FINAL)

Discharge Type: Continuous

Latitude - 30°18'45"N; Longitude - 91°14'00"W

During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted),

the permittee is authorized to discharge process, utility, stormwater, sanitary and other miscellaneous wastewaters to Mississippi River.

Such discharges shall be limited and monitored by the permittee as specified below:

PARAMETER						
	STORET	MONTHLY	DAILY		SAMPLE	SAMPLE
CONVENTIONAL	NUMBER	AVERAGE	MAXIMUM	UNITS	FREQUENCY	TYPE
pH RANGE EXCURSIONS 1/	82581	NA	0	3/	CONTINUOUS	RECORDER
pH RANGE EXCURSIONS 2/	82582	NA	446	3/	CONTINUOUS	RECORDER
pH 4/	00400	NA	NA	S.U.	CONTINUOUS	RECORDER
NONCONVENTIONAL						
Flow (MGD)	50050	REPORT	REPORT	MGD	CONTINUOUS	PUMP CURVE
BASE/NEUTRAL COMPOUNDS						
Hexachlorobenzene	39700	1.18	2.82	LB/DAY	1/WEEK	24-HR COMPOSITE
WHOLE EFFLUENT TOXICITY		MONTHLY	48-HR			
TESTING		AVERAGE	MINIMUM			
48-Hr. Static Renewal		MINIMUM	5/	QUALITY		
Pimephales promelas	TEM6C	NA	REPORT	%	1/QUARTER	24-HR COMPOSITE
Pimephales promelas	TOM6C	NA	REPORT	%	1/QUARTER	24-HR COMPOSITE
Daphnia pulex	TEM3D	NA	REPORT	%	1/QUARTER	24-HR COMPOSITE
Daphnia pulex	TOM3D	NA	REPORT	%	1/QUARTER	24-HR COMPOSITE

RESPONSE TO COMMENTS APPENDIX

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OUTFALL 521 (INTERNAL)

Discharge Type: Continuous

Latitude 30°19'0"N, Longitude 91°14'0"W

During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted),

the permittee is authorized to discharge process wastewater and once through cooling water from the manufacture of chlorinated solvents to Outfall 001.

Such discharges shall be limited and monitored by the permittee as specified below:

PARAMETER	STORET	MONTHLY	DAILY		SAMPLE	SAMPLE
	NUMBER	AVERAGE	MAXIMUM	UNITS	FREQUENCY	TYPE
NONCONVENTIONAL						
FLOW	50050	REPORT	REPORT	MGD	CONTINUOUS	RECORD
VOLATILE COMPOUNDS						
1,2 DICHLOROETHANE	34531	N/A	574	UG/L	1/DAY	GRAB
TETRACHLOROETHYLENE	34475	N/A	164	UG/L	1/DAY	GRAB



Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

NPDES Permit No. **LA0003301**

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended,
(33 U.S.C. 1251 et. seq; the "Act"),

DOW U.S.A.

The Dow Chemical Company

P.O. Box 150

Plaquemine, Louisiana 70765-0150

is authorized to discharge from a facility located LA Hwy 1, Iberville/West Baton Rouge Parish,
Plaquemine, Louisiana 70765-0150

to receiving waters named Mississippi River, Waterbody Segment Code No. 070301 of the
Mississippi River Basin from

Final Outfall 001:

Final Outfall 002:

in accordance with this cover page and the effluent limitations, monitoring requirements, and
other conditions set forth in Parts I [Requirements for NPDES Permits - 137 pages], II [Other
Conditions - 15 pages], and III [Standard Conditions for NPDES Permits - 7 pages] hereof.

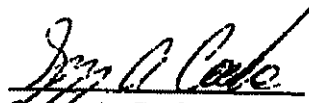
This permit supersedes and replaces NPDES Permit No. LA0003301 issued
June 17, 1988.


This permit shall become effective on **March 1, 2002**

This permit and the authorization to discharge shall expire at midnight, **November 30, 2006**

Issued on **October 12, 2001**

Prepared by


Gregg A. Cooke
Regional Administrator


Brian W. Mueller
NPDES Permits Branch (6WQ-P)

PERMIT NO. LA0003301

PAGE 1 OF PART I

PART I - REQUIREMENTS FOR NPDES PERMITS**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS****OUTFALL 001(FINAL)**

Discharge Type: Continuous

Latitude - 30°18'45"N; Longitude - 91°14'00"W

During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted),

the permittee is authorized to discharge process, utility, stormwater, sanitary and other miscellaneous wastewaters to Mississippi River.

Such discharges shall be limited and monitored by the permittee as specified below:

PARAMETER						
	STORET	MONTHLY	DAILY		SAMPLE-	SAMPLE
CONVENTIONAL	NUMBER	AVERAGE	MAXIMUM	UNITS	FREQUENCY	TYPE
pH RANGE EXCURSIONS 1/	82581	NA	0	3/	CONTINUOUS	RECORDER
pH RANGE EXCURSIONS 2/	82582	NA	446	3/	CONTINUOUS	RECORDER
pH 4/	00400	NA	NA	S.U.	CONTINUOUS	RECORDER
NONCONVENTIONAL						
Flow (MGD)	50030	REPORT	REPORT	MGD	CONTINUOUS	PUMP CURVE
BASE/NEUTRAL COMPOUNDS						
Hexachlorobenzene	39700	1.18	2.82	LB/DAY	1/WEEK	24-HR COMPOSITE
WHOLE EFFLUENT TOXICITY TESTING						
48-Hr. Static Renewal		MONTHLY	48-HR			
		AVERAGE	MINIMUM			
		MINIMUM	3/	QUALITY		
Pimephales promelas	TEM6C	NA	REPORT	%	1/QUARTER	24-HR COMPOSITE
Pimephales promelas	TOM6C	NA	REPORT	%	1/QUARTER	24-HR COMPOSITE
Daphnia pulex	TEM3D	NA	REPORT	%	1/QUARTER	24-HR COMPOSITE
Daphnia pulex	TOM3D	NA	REPORT	%	1/QUARTER	24-HR COMPOSITE

PERMIT NO. LA0003301

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OUTFALL 521 (INTERNAL)

Discharge Type: Continuous

Latitude 30°19'0"N, Longitude 91°14'0"W

During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted),

the permittee is authorized to discharge process wastewater and once through cooling water from the manufacture of chlorinated solvents to Outfall 001.

Such discharges shall be limited and monitored by the permittee as specified below:

PARAMETER	STORET	MONTHLY	DAILY		SAMPLE	SAMPLE
	NUMBER	AVERAGE	MAXIMUM	UNITS	FREQUENCY	TYPE
NONCONVENTIONAL						
FLOW	50050	REPORT	REPORT	MGD	CONTINUOUS	RECORD
VOLATILE COMPOUNDS						
1,2 DICHLOROETHANE	34531	N/A	574	UG/L	1/DAY	GRAB
TETRACHLOROETHYLENE	34475	N/A	164	UG/L	1/DAY	GRAB

SAMPLING LOCATION(S) AND OTHER REQUIREMENTSSAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Internal Outfall 521.

DEFINITIONS

The term "runoff" shall mean the flow of stormwater resulting from precipitation or snow/ice melt coming into contact with the industrial facility property.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box located in the upper right corner of the Discharge Monitoring Report.

BOBBY JINDAL
GOVERNOR



HAROLD LEGGETT, Ph.D.
SECRETARY

State of Louisiana

JUL 23 2009

DEPARTMENT OF ENVIRONMENTAL QUALITY ENVIRONMENTAL SERVICES

CERTIFIED MAIL 70051820000223608363 -RETURN RECEIPT REQUESTED

File No.: LA0003301

AI No.: 1409

Activity No.: PER20060028

Ms. Sharon Cole, Site Director
The Dow Chemical Company
Louisiana Operations
P.O. Box 150
Plaquemine, Louisiana 70765-0150

RE: Draft Louisiana Pollutant Discharge Elimination System (LPDES) permit to discharge treated process wastewater, utility wastewaters, sanitary wastewater, and stormwater runoff to the Mississippi River (Outfalls 001 and 002) from an existing organic chemical manufacturing plant located at 21255 Louisiana Highway 1 in Plaquemine, Iberville and West Baton Rouge Parishes.

Dear Ms. Cole:

The Department of Environmental Quality proposes to reissue a LPDES permit with the effluent limitations, monitoring requirements, and special conditions listed in the attached DRAFT PERMIT. Please note that this is a DRAFT PERMIT only and as such does not grant any authorization to discharge. Authorization to discharge in accordance with this permitting action will only be granted after all requirements described herein are satisfied and by the subsequent issuance of a FINAL PERMIT. Upon the effective date of the FINAL PERMIT, the FINAL PERMIT shall replace the previously effective LPDES permits LA0003301, LA0116602, and LAG670070.

This Office will publish a public notice one time in a local newspaper of general circulation and in the Office of Environmental Services Public Notice Mailing List. A copy of the public notice containing the specific requirements for commenting on this draft permit action will be sent under separate cover at the time the public notice is arranged. In accordance with LAC 33:IX.6521.A, the applicant shall receive and is responsible for paying the invoice(s) from the above mentioned newspaper(s). LAC 33:IX.6521.A states: "...the costs of publication shall be borne by the applicant."

The invoice, fee rating sheet, and a copy of the fee regulations will be sent under a separate cover letter as applicable. Please note that a copy of the fee rating worksheet is also attached to this draft permit. A copy of the entire Louisiana Water Quality Regulations may be obtained from the DEQ Office of Environmental Assessment, Post Office Box 4314, Baton Rouge, Louisiana 70821-4314, (225) 219-3236.

DRAFT



PERMIT NUMBER
LA0003301
AI No.: 1409

OFFICE OF ENVIRONMENTAL SERVICES
Water Discharge Permit

Pursuant to the Clean Water Act, as amended (33 U.S.C. 1251 et seq.), and the Louisiana Environmental Quality Act, as amended (La. R. S. 30:2001 et seq.), rules and regulations effective or promulgated under the authority of said Acts, and in reliance on statements and representations heretofore made in the application, a Louisiana Pollutant Discharge Elimination System permit is issued authorizing

The Dow Chemical Company
Louisiana Operations
P.O. Box 150
Plaquemine, Louisiana 70765-0150

Type Facility: organic chemical manufacturing plant

Location: 21255 Louisiana Highway 1 in Plaquemine
Iberville/West Baton Rouge Parishes

Receiving Waters: Mississippi River (Outfalls 001 and 002) - Subsegment No. 070301

to discharge in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, and III attached hereto.

This permit shall become effective on _____

This permit and the authorization to discharge shall expire five (5) years from the effective date of the permit.

Issued on _____

Cheryl Sonnier Nolan
Assistant Secretary

DRAFT

Part I
Permit No. Draft LA0003301

Page 2
AI No. 1409

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

Outfall 001 (Final) (estimated total outfall flow is 597 MGD), this final outfall consists of the continuous discharge of CWR Canal A to the Mississippi River. CWR Canal A receives flow from Canals B, C, D, E, and F, and includes the wastewaters described in all internal outfalls within the manufacturing areas, as well as, stormwater runoff, once through cooling water, and utility wastewater flows (i.e., hydrostatic test water, hydroblast water, deluge test water, fire hydrant test water, condensate, utility discharge from turnaround activities, de-ionized (DI) water, air conditioner condensate, cooling tower blowdown, regeneration streams, water treatment discharges, steam traps, and clean equipment/slab wash down).

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>		<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
		<u>Other Units</u>				<u>Measurement Frequency</u>	<u>Sample Type</u>
<u>CONVENTIONAL AND NONCONVENTIONAL</u>	<u>STORET Code</u>	<u>(lbs/day, UNLESS STATED) Monthly Average</u>	<u>(ug/L, UNLESS STATED) Daily Maximum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>		
Flow-MGD	50050	Report	Report	---	---	Continuous	Pump Curve (*5)
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	82581	---	0 (*1)	---	---	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	82582	---	446 (*1)	---	---	Continuous	Recorder
pH Minimum/Maximum Values (Standard Units)	00400	---	---	Report (Min)	Report (Max)	Continuous	Recorder
Chlorides	82209	-	-	Report	Report	1/Year	Grab
<u>Volatile Compounds</u>							
Benzene	34030	-	-	Report	Report	1/Year	Grab
Chloroform	32106	-	-	Report	Report	1/Year	Grab
1,2-Dichloropropane	34541	-	-	Report	Report	1/Year	Grab
Methylene Chloride	34423	-	-	Report	Report	1/Year	Grab
Tetrachloroethylene	34475	-	-	Report	Report	1/Year	Grab
1,1,2,2-Tetrachloroethane	34516	-	-	Report	Report	1/Year	Grab
Trichloroethylene	39180	-	-	Report	Report	1/Year	Grab
Vinyl Chloride	39175	-	-	Report	Report	1/Year	Grab
<u>Base Neutral Compounds</u>							
Acenaphthene	34205	-	-	Report	Report	1/Year	Grab
Acenaphthylene	34200	-	-	Report	Report	1/Year	Grab
Anthracene	34220	-	-	Report	Report	1/Year	Grab
Benzo(a)anthracene	34526	-	-	Report	Report	1/Year	Grab
Benzo(a)pyrene	34247	-	-	Report	Report	1/Year	Grab
3,4-Benzofluoranthene	34230	-	-	Report	Report	1/Year	Grab
Benzo(k)fluoranthene	34242	-	-	Report	Report	1/Year	Grab
Chrysene	34320	-	-	Report	Report	1/Year	Grab

Part I
Permit No. Draft LA0003301

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AI No. 1409

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning the effective date and lasting through cessation of process wastewater discharges from the Ethylene Dichloride manufacturing operations (*1) the permittee is authorized to discharge from:

Internal Outfall 201 (521) (Solvents) (Phase I) (estimated total outfall flow is 2.09 MGD), this internal outfall consists of the continuous discharge of non-categorical process wastewater, once through cooling water, utility wastewater, and non-process area stormwater from the Solvents/EDC I Plant. This internal outfall discharges to CWR Canal A and then to Outfall 001.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Storet Code</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
		(lb/day, unless stated)		Other Units		<u>Measurement Frequency</u>	<u>Sample Type</u>
		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>		
<u>Conventional/Nonconventional</u>							
Flow - MGD	50050	Report	Report	-	-	1/Week	Estimate
<u>Volatile Compounds</u>							
1,2-Dichloroethane	32103	-	-	-	574	1/Week	Grab
Tetrachloroethylene	34475	-	-	-	164	1/Week	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Internal Outfall 201 (521), at the point of discharge from the Solvents/EDC I Plant TTU lined ditch, from a catwalk in the northeast corner of Block 15, prior to mixing with other waters in CWR Canal A at Latitude 30°18'52", Longitude 91°14'00".

FOOTNOTE(S):

- (*1) The permittee shall notify the Office of Environmental Services, the Office of Environmental Compliance - Permit Compliance Unit, and the Capital Regional Office in writing at least 30 days prior to discharging under the Phase II conditions.

Part I
Permit No. Draft LA0003301

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AI No. 1409

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning cessation of process wastewater discharges from the Ethylene Dichloride manufacturing operations and lasting through the expiration date the permittee is authorized to discharge from:

Internal Outfall 201 (521) (Solvents) (Phase II) (estimated total outfall flow is 2.09 MGD), this internal outfall consists of the continuous discharge of non-categorical process wastewater, once through cooling water, utility wastewater, and non-process area stormwater from the Solvents/EDC I Plant. This internal outfall discharges to CWR Canal A and then to Outfall 001.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>		<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
<u>Conventional/ Nonconventional</u>	Storet Code	(lb/day, unless stated)		Other Units (ug/l, unless stated)		Measurement Frequency	Sample Type
		Monthly Average	Daily Maximum	Monthly Average	Daily Maximum		
<u>Nonconventional</u> Flow - MGD	50050	Report	Report	-	-	1/Week	Estimate
<u>Volatile Compounds</u>							
1,2-Dichloroethane	32103	-	-	-	574	1/Year	Grab
Tetrachloroethylene	34475	-	-	-	164	1/Week	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Internal Outfall 201 (521), at the point of discharge from the Solvents/EDC I Plant TTU lined ditch, from a catwalk in the northeast corner of Block 15, prior to mixing with other waters in CWR Canal A at Latitude 30°18'52", Longitude 91°14'00".